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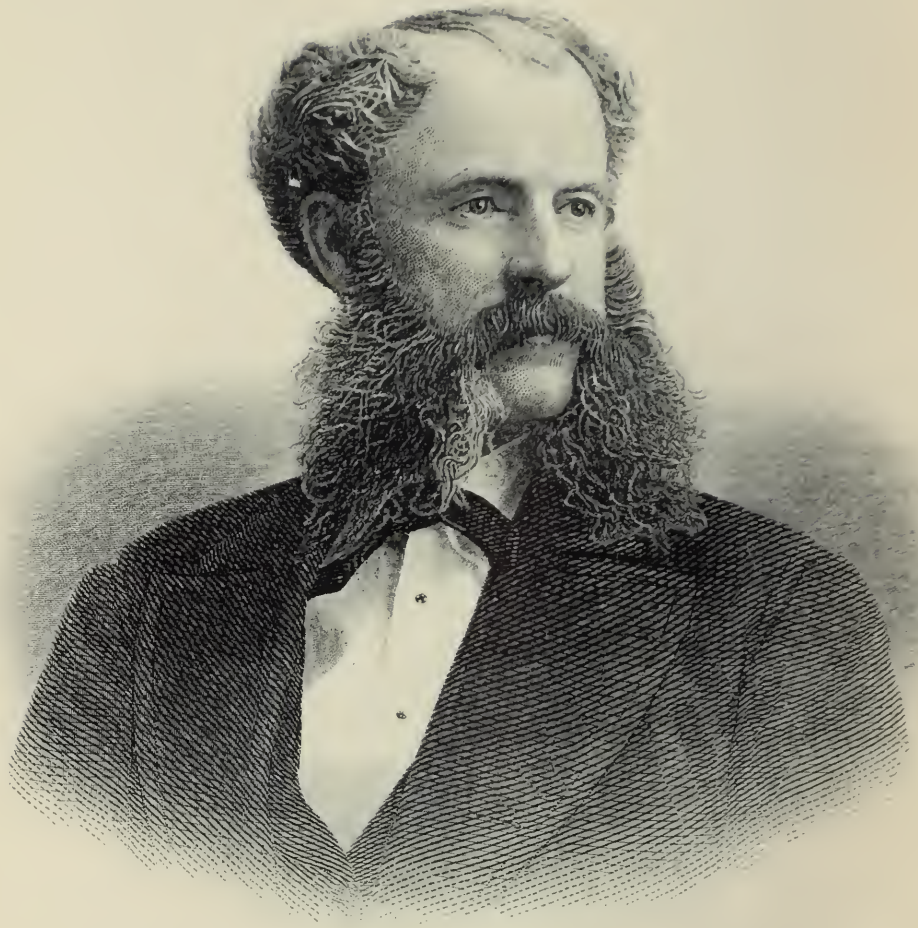

A. B. Bogdwell D.D.S.

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Original Communications.

Dr. A. C. Cogswell.

ALFRED CHIPMAN COGSWELL was born in Cornwallis, King's County, Nova Scotia, 1834. At the age of fifteen, he attended the Academy at Wolfville, with the intention of taking a college course, but after two years he was compelled to abandon study on account of ill health. The next two years were spent with great benefit on his father's farm, near Portland, Maine, to which place (Falmouth) his parents had removed. Alfred entered upon the study of dentistry in the office of Dr. Edwin Parsons, of Portland, Maine, in 1852. After four years' study and practice in Portland and Boston, he opened an office in Wakefield, Mass., where he practised successfully until he removed to Halifax, N.S., in 1858, and was married the same year previous to his removal. In Halifax, a partnership was formed with Dr. Lawrence Van Buskirk, a successful practitioner of dentistry in that city. After two years Dr. Van Buskirk retired, from ill health, and soon after died of heart disease. In 1867 Dr. Cogswell formed a partnership with Dr. T. L. Mackay, of Boston, Mass., which continued for two years, when Dr. Cogswell repaired to Philadelphia, and attended the Philadelphia Dental College in that city, until he received the degree of Doctor of Dental Surgery. He then returned to Halifax, and after practising some years, close attention to practice necessitated a change and rest, and he spent a

winter travelling through the West, California, Mexico, and via steamer from San Francisco to New York, thence home again. After five years' practice he was obliged to take a trip out South, visiting the Southern States, Florida, St. Augustine, and up the St. John River, all of which added to his health, and enabled him to resume practice with renewed energy.

Dr. Cogswell has applied himself closely to his profession since 1852, making in all thirty-nine years in dentistry, thirty-three of which has been in the city of Halifax. At the time Dr. Cogswell obtained his degree, there were not more than twelve dentists practising in the Province of Nova Scotia, and not more than two or three who had degrees of M.D. or D.D.S. Dr. Cogswell has worked incessantly to elevate the profession, and, with others, tried to secure legislation for the benefit of the profession as well as the public. It is with no small degree of pleasure that Dr. C. has, with the aid of his professional confreres, at last secured an Act to incorporate the Dental Association of the Province of Nova Scotia, which was passed May 19th, 1891, with power to form a Provincial Dental Board of Examiners, of which Dr. Cogswell was made President. At the present time Dr. Cogswell has associated with him his son, Arthur W. Cogswell, M.D., D.D.S., who, after practising medicine and surgery for four years, completed his studies in dentistry, and secured his degree of D.D.S., and Dr. Cogswell and son are now still in practice in Halifax. His son, at the annual meeting of the Dental Association, was made Vice-President. It is to be hoped that Dr. A. C. Cogswell may be spared years yet of usefulness, as he is now in his fifty-seventh year, and, although his hair has been gray for years, he is full of energy and activity, and, with care, may live many years.

In 1868 there were only twelve persons practising dentistry in the Province of Nova Scotia, and not more than two or three who had degrees. Now, 1891, there are registered under the Dental Act seventy odd, while some thirty-five have taken degrees. The others are practising under the Act, having been granted license and certificates; while some twelve or fourteen have been refused license to practice, as they have not complied with the Act. Several of those who have registered have studied medicine as well as dentistry, and are therefore qualified, as it may yet be required, for all to be in time to come.

Ethics.

A Paper read before the Nova Scotia Dental Association, at their Annual Meeting, at Halifax, September 30th, 1891.

By A. C. Cogswell, D.D.S.,
President, Dental Board of Examiners.

First, What is ethics? The definition given in our dictionaries defines it as "The science of moral duty." This may give us an outline or skeleton of the word, but to know the science of moral duty, to feel its impress and force within one's self, it becomes necessary to analyze its true meaning, and to examine, so as to discover, if possible, what this science of moral duty consists of; what are its principal constituents and elementary principles; how they may be applied to every one in life, and most especially to the individual members of our dental profession; and if it is possible for every professional man to possess these elements that make up this moral code, and, having this within himself, to honestly and conscientiously live up to its moral teachings and principles of moral duty.

On analysis, we find, first, it becomes requisite to be possessed of a conscience—one, if possible, "void of offence toward God and man," one that has, at least, some small spark of the image of our Creator, that may be fanned into actual life and brought to know that, at least, "Honesty is the best policy," and that "An honest man is the noblest work of God."

"'Tis man's inhumanity to man
Makes countless millions mourn."

What is life without health? is often asked. So we ask, What is life without a conscience? No conscience: no moral life, no spiritual existence, no principle, no conscientious stimulus to urge us on to nobler deeds and higher and nobler motives, to lift us up to a higher plane than *self*. Conscience, we find, therefore, to its full capacity, is the first and principal element that covers this science of moral duty. We can not exist without it, no more than without food to sustain life. Conscience should enter into every act and thought of our life; this, too, in our daily profession. The *Dental Cosmos* for June has as follows, under "The Ethics of

Work" :—" There is no pursuit in which one can afford to do without a conscience, any more than he can do without brains or instruments. Just measure is required in all human transactions. Legitimate success is based upon legitimate methods, upon genuine standards. Rickety work of any kind will not stand ; the veneering cracks, the whitewash peels off, the flaw comes out in the unsound timber, the bad needle 'cuts in the eye.' The greenest customer finds out in a little while that the best things are the cheapest. The knowledge may not come soon enough to prevent fraud, but it does come. Good work—work done in loyalty to duty —never loses its power, and has a sure reward. It adds to human well-being and progress. It stands in solid results, and circulates as moral force. It helps to make men better, and does make better those who do it."

Yes, gentlemen ; what we want in ethics is conscience which has within it the elements of honesty, fair dealing, patience, kindness, unselfishness, sincerity and loyalty to duty, and a gentleman outside of all these, which he cannot fail to be if he possess these conscientious elements. Let our motto be " Excelsior." Let us pledge ourselves, as members of this Association, to live up to this moral science and practise its principles, that, as professional men and as specialists to suffering humanity, we may practise morality as a science of moral duty. Let it be done in a right spirit. If a brother confrere or member of our Association fails to act in accordance with professional ethics and acknowledged principles, or violates our code of moral duty, let us unite and reclaim our brother ; help him to feel that, conscientiously, morally and ethitistically, he cannot continue to degrade himself or disgrace the profession ; and thus, by mutual aid, " Do unto others as we would that others should do unto us." A writer has said, in reference to our lives, " I shall pass through this world but once. Any good thing, therefore, that I can do, or any kindness that I can show to any human being, let me do it now. Let me not defer it or neglect it, for I shall not pass this way again." "Actions speak louder than words."

Let no one in our ranks have occasion to point the finger to another, or have occasion to remind him of his moral duty. It ill-becomes any who practise dentistry at the present time to be called such names as humbugs, quacks, or charlatans. While it

may have applied to some in the past, we hope for better things of those practising in the province of Nova Scotia—at least—at the present time. We have charity for all, and feel that all will come into line, and work conscientiously as men who are worthy of the profession.

An editorial in the July number of the *Dental Journal*, headed "Quack," may be read just here :—" It is one of the curious phases of professional morality—or, rather, immorality—that, while there are men who zealously and unselfishly labor for the professional good, and a majority who desire progress, but who do not put their shoulders to the wheel, there are also a small minority of men who deliberately put themselves in the ranks of the quack, simply because they believe that honesty does not pay. For this reason, they cast aside all the decencies and ethics of professional life, exclude themselves from membership in respectable societies, and fasten the stigma of 'quack' to their reputation, trusting to the gullibility of the public for what they call success. Our Canadian cities have never yet given long life to this class of fraudulent practitioners, but on matters of medical and dental treatment the public are easily deceived. 'A lie,' says Thackeray, 'once set agoing, having the breath of life breathed into it by the father of lying, and ordered to run its diabolical little course, lives with a prodigious vitality,' etc. When a man thus deliberately blackens his own professional character and ambition, he need not wonder that respectable practitioners take him at his own value. There has never yet been a single instance on record of a truly worthy professional man using false and boasting methods of advertising. A man who resorts to this degrading system has all the instincts of a quack."

Gentlemen, brothers of the Nova Scotia Dental Association, to you we look for much. Youth is the time to train the young. Our Association is only one year old. It is fairly launched ; look to it, we steer our bark well to avoid hidden shoals and untold dangers. To the young men of the profession we look for help. Put heart, soul and honest work into action, and aim to do something to redeem the past. Be up and doing ; you have hearts for any fate. Leave your 'footprints on the sands of time,' that others following after may be encouraged to press on,—

"Still achieving, still pursuing,
Learn to labor and to wait."

Gold as a Material for Filling Teeth.

R. E. Sparks, L.D.S., Kingston, Ont.

Much has been, and is being written upon the subject of materials best adapted for the successful filling of teeth. Owing to their malleability, lead and tin were used with considerable success before gold in its present forms and the plastic fillings, now so popular, were prepared.

Gold was the next material which came into general use, and is said to have been used at a very early date. But only during the present century has the operation of preserving the natural teeth, by means of filling the cavities made by decay, been very generally performed with any marked degree of success.

So wedded to gold, as a filling material, were the old operators of the present generation, that it became an axiom with them, that a tooth which was worth filling at all was worth filling with gold. The man who dared to suggest that plastic material might be used to advantage in certain cases was set down as a crank or charlatan. Gold possessed advantages over the other then known materials. Lead and tin were soft, and consequently became worn away by the friction of mastication. Their dull color showing through thin enamel walls gave the teeth a discolored appearance. Gold was dense and withstood fricton well. It also retained its color and brilliancy. So late as the edition of 1871 of "Harris' Principles and Practice of Dentistry," the author says of gold : "It is the only material in the opinion of the author which should be employed for the permanent filling of teeth."

Gold was first used as non-cohesive foil, and, to be retained in the cavity, required retaining pits or grooves in almost all directions. The contour fillings, which are the pride of so many operators, were wholly unknown. It was not until Dr. Robert Arthur wrote a treatise on "The use of adhesive foil," as late as 1857, and demonstrated the applicability of this form of gold in filling teeth, that the use of cohesive foil became at all general. If gold was found to be such a valuable filling material when used as non-cohesive only, what may be said of its value in its cohesive form, when a cavity having two walls, or even one wall, well

grooved, will retain a filling? or when a tooth having lost a part, or even the whole crown, may be restored to its proper contour and articulation?

But while some men have gone wild over gold as a filling material, and held the opinion that gold only should be used, others have gone to the other extreme, and say gold should never be used. Some who once lauded gold up to the sky, now condemn it. A prominent dentist of Philadelphia, who was once a great advocate of gold, now, it is said, has printed upon his cards, "No gold used." While it is wise to profit by the experiences of others, what are we to do with such conflicting evidence? We must then draw upon the evidence of our own experience. Let us look at the requirements of a variety of cavities. I once heard Dr. Jas. H. Harris, of Baltimore, clinical professor of the dental department of the University of Maryland, say, of the relative merits of cohesive and non-cohesive gold foil, "It is impossible for an operator to do justice to himself or his patients by confining himself to the exclusive use of either form." I would say the same, from my own experience of gold vs. other materials. A case is presented: A central incisor, healthy patient, good tooth, pulp well covered, plenty of room for retention; that case calls for gold. Another case: A central incisor, patient very delicate, of lymphatic temperament, enamel of tooth thin, labial and palatine walls gone, tooth extremely sensitive; that tooth calls for some preparation of gutta percha or zinc. Another case: A cavity on the posterior approximal surface of a molar; if the condition of the tooth would warrant the use of a metal filling at all, that case demands amalgam. In that position the discoloration of amalgam would not be an objection, and a more perfect filling could be made than could be made of gold in the same position, and with much less fatigue to both patient and operator.

To sum up. The advantages of gold are: density, enabling it to withstand the friction of mastication well. Indestructibility, enabling it to withstand the action of ordinary solvents. Cohesiveness, enabling it to restore the contour and articulation of parts of teeth which may have been destroyed. Adaptability, permitting it to be so closely packed to the walls of a cavity that moisture may be excluded. Retention of color, neither becoming discolored nor discoloring the tooth.

Its disadvantages are: its color, making it a very conspicuous filling. Its conductivity, making it an unsafe material with which to fill a cavity, having an exposed pulp, which is very sensitive. Its inadaptability, making it (1) Tedious to insert, for, to adapt it perfectly to the walls of a cavity, it must be inserted bit by bit. (2) Expensive, because, for his time, rather than for the material used, does the operator expect remuneration. (3) Leaky, because cavities often present themselves which it is next to impossible to fill perfectly with gold, owing to their inaccessibility, or to the difficulty with which they may be kept dry. Who has not seen large compound approximal surface cavities in bicuspids or molars, containing apparently fine gold fillings, but which were leaky at the cervical wall? Such a filling is patched with gold with much more difficulty than the original cavity was filled, and with much more uncertainty of success. Therefore, I would recommend gold for front teeth of good quality, and for back teeth, where the cavities are small and easily reached; for, in such cavities, I consider the advantages to counterbalance the disadvantages of gold as a filling material.

Dental Dots Distilled.

By D. V. Beacock, L.D.S., Brockville, Ont.

To make nice wax sheets, I have used the following plan for the last fifteen years: After the wax is properly cleaned, get four pieces of glass cut the width you want to have your sheets, and about ten inches long. Any deep vessel, such as a dinner pail, or an old oyster can will serve to melt the wax. Put the pieces of glass in a pail of cold water, when the wax is melted, take two pieces of the glass, one in each hand, and dip alternately, one cooling while you dip the other; about three or four dips is sufficient, then drop into the cold water. Let these two remain till you dip the other two in the same manner. By trimming the edges off the glass with a knife the sheets will drop off themselves. If the wax is kept too hot the sheets will be too thin, if too cold they will be lumpy and thick; near the setting or cooling point is the proper temperature. A tablespoonful of Venice turpentine to three or four pounds of wax will toughen it. This should be

evaporated to dryness like resin. It can sometimes be obtained in drug stores in this form. It will answer the purpose even if used thin, but the thicker it is the tougher will be the wax sheets.

If you wish to have extra fine wax you can bleach it and cleanse it at one operation. Melt your wax and add two ounces of nitrate of soda, and one ounce of sulphuric acid diluted with one gill of water. This should be added slowly, at the same time stirring with a pipe-stem or glass rod. It is then cooled and set aside after filling the vessel with hot or boiling water. Wash the wax well with boiling water and the whole process is completed.

A solution of perchloride of iron is such a valuable styptic that no dental office should be without it.

To clean corundum wheels: dip a piece of cloth into alcohol, wash the wheel well with it. I have lately found out that one-third chloroform and two-thirds alcohol is much better. The chloroform dissolves the wax and oil that accidentally gets on the stone; the alcohol removes the shellac, and leaves the corundum free to cut as when the stone was new.

Too much attention cannot be given to the temperature, when mixing cements for filling teeth, and even for other purposes. Remember, that heat hastens, and cold retards, the process of setting and crystallization.

Very often it is the little hint or suggestion that we read somewhere, which proves a mountain of help to us at some critical moment.

Amalgam will expand or contract, depending on how it is mixed. Too much mercury causes it to shrink and discolor; if on the contrary it is mixed dry, it will not shrink or discolor nearly so much.

It is said that fully one-third of all the medical students that are graduated in the United States fail. By the way, the same may be said of many of the dental students.

Beer is much better to mix sand with than water for moulding, and I would add, that it is the only use to which any dentist should ever put it.

Metal for casting lower plates. Take one ounce of bismuth and fifteen ounces of tin; melt and stir till thoroughly mixed, run into ingots for future use. Keeps its color well, and vulcanizes with rubber attachments nicely; can be improved by adding a little silver if desired.

The work of the dentist is often expected to be infallible. It is

not an uncommon thing for a person to wear a plate for five or ten years, and then if a tooth happens to come off, demand that it be put on free of charge. A case in point: a woman came into my office, with a long visage handed me her plate, with the remark, "I have broken my plate; yes, it broke while I was eating mashed potatoes, and I am so very careful not to eat anything hard; oh! I am very careful." "Well," I said, "I am sorry; I never like to see a broken plate come into the office. How long have you had it?" "Why," said she, "you made it; don't you remember, seventeen years ago?" "And have you never broken it before?" "No." "Well, madam, it has not cost you much." "No, but I don't think you ought to charge me for mending them." "Why?" I asked. "Because you made my sister a set three years before I got mine and she hasn't broken her's yet!" There are others, with mouths so unfavorable, that it is almost impossible for any dentist to adapt a set of teeth to them, although he may try again and again to do it, who very generously offer not to trouble him any more if he will kindly refund them their money.

It is fearful to contemplate the number of living teeth that are ruined everywhere by the reckless use and abuse of the zinc plastics. I wonder if dentists ever stop to consider what they are using, and what may be the result of plastering up a sensitive tooth with zinc without proper care. Oxide of zinc contains a large percentage of arsenite of zinc, and this is insoluble in solution chloride of zinc. Arsenic also abounds in hydrochloric acid in the form of chloride of arsenic. Now if we cap a pulp, or one nearly exposed, without careful protection, what is going to be the result? There will very likely be a funeral, and you may just as well put it down in your notebook. Sleeping nicely now, but will die sure. Zinc also contains iron, copper, lead, tin, arsenic and carbon, etc. How many of us know or care to know what we are using? Oxyphosphate and oxychloride of zinc are undoubtedly two of the most useful articles, when properly used, that we possess; but, when carelessly used, they are capable of doing terrible damage to living teeth.

A little spirits of camphor, dropped into a wine glass of water, will sometimes prevent nausea while taking impressions; let the patient rinse out the mouth just previous to inserting the cup.

Don Quixote said to Sancho, "you must know that a mouth without grinders is like a mill without stones, and a diamond is not so precious as a tooth."

A Case of Interrupted Second Dentition.

By C. W. Wells, D.D.S., Waterloo, Ont.

About eighteen months ago, a girl fourteen years of age presented herself for treatment. Upon examination, it was found that the right central incisor, right lateral and right cuspid were missing. The remaining permanent teeth of the upper jaw were in a normal position, and the vacant space was more than wide enough to receive the missing teeth. Upon inquiry, I found that when the patient was seven years of age or younger (she had forgotten the exact time), the six anterior deciduous teeth had all been extracted at one time, by a bearded man who was then a student of dentistry, but who has since repented and joined the ranks of the book agents (may the public be thankful). He extracted them "to make room for the new ones," he said. The alveolus, on the right side, was very much thickened, and as there was a hard bony plate under the gum tissue, it was concluded that the missing teeth were imprisoned, and would require surgical assistance to bring them out into position. The alveolus was cut away to a considerable depth, and here the points of the missing teeth were found. Further cutting of the alveolus around the crowns was indulged in, and into the space thus made was inserted a roll of cotton dipped in a 10% solution of carbolic acid. In a week the parts were again opened up and carbolized cotton inserted as before. At the end of the second week it was seen that the teeth had made some progress towards eruption. The case was seen every week, and progress noted, and in about six months these three teeth had fully erupted, but were very irregular. The right central came through inside of its normal position, and presented to the front its disto-approximal surface. The cuspid was twisted and crowded out of the arch by the lateral, which leaned toward the first biscupid. A large space was thus left between the central and lateral. Platina bands, to which were soldered small gold hooks, were cemented to the teeth to be regulated and to the right first molar. By means of small rubber bands slipped over these hooks, the teeth were gradually moved into proper position. A retaining appliance was worn for several months. This consisted simply of platina bands, cemented to the teeth, a stiff gold wire

having been soldered to these bands previous to their final adjustment. I have seen the young lady several times since her dismissal, and the once imprisoned and regulated teeth are as useful, and, from an artistic point of view, as becoming as the others, and seem none the worse for their late and somewhat enforced eruption.

Thirty-six Teeth in a Set.

By Geo. McDonald, L.D.S., Carleton Place, Ont.

I read an item in the November *Items of Interest*, written by J. W. Greene, P.D., Chillicothe, Mo., stating he knows a man who has *thirty-six* natural teeth and perfect in form. Some time ago I met a similar case at Bryson, Que. A gentleman called one morning to have a tooth removed which was annoying him on account of being loose, and, on examination, I found that he had *thirty-six* teeth, just as perfect in form and arch arrangement as any set of *thirty-two* I have ever seen. The surplus number consisted of molars, the four being as perfectly formed as the others, and about the average size of wisdom teeth. It was one of those he wanted removed, the left superior. After the operation I examined it and found it free from caries ; also found the remaining three free from caries. At present he lives at Portage du Fort, Que. Was not aware he had *thirty-six* teeth until I told him. First and only case I have ever seen.

Cocaine.

By F. A. Stevenson, D.M.D., L.D.S., Montreal.

Cocaine is the alkaloid obtained from the *leaves* of a South American shrub called Erythroxylon coca, which is found chiefly on the eastern slopes of the Andes in Peru and Chili. The coca leaf resembles the tea leaf in shape, and has an astringent and bitter taste, and is used by the natives both as a medicine and a stimulant.

The alkaloid, when pure, occurs in the form of transparent prisms, of a bitter taste, and is only slightly soluble in water, but

dissolves readily in ether, and fairly well in alcohol. There are several salts of cocaine used in medicine—the hydrochlorate (or muriate), the citrate and hydrobromate; there is also a wine of coca which has a very stimulating effect on the nerves. The hydrochlorate is the salt most generally used for producing local anæsthesia. It began to be used by dentists about 1884, principally to deaden the pain of extraction of the teeth. The usual course was to apply a 4% solution to the gum (many, also, injected it between the gum and the tooth), then, after waiting for five minutes to allow the cocaine to take effect, to extract the tooth. Very soon cases with very disagreeable constitutional symptoms were reported, such as severe cramps in the extremities, or fainting. I know of a case in which several teeth were extracted under the influence of cocaine, and partial paralysis of the tongue occurred which lasted for three days, and then gradually wore off. Of course, a natural revulsion against a drug which acted so capriciously followed, and its general use in the extraction of teeth has been given up. A few dentists, however, still continue to use cocaine. The late Dr. Whitten, of Boston, used it extensively, and claimed never to have had any unpleasant after-effects. He used a very strong solution of the hydrochlorate (20%), and injected 3ℳ into the socket of the tooth to be extracted, making three injections into as many sides (1ℳ into each). He then extracted at once, without allowing any time to elapse between the last injection and the extraction. Whitten's theory was, that the very small quantity of cocaine injected, and extracting immediately, prevented the alkaloid from being absorbed in a quantity sufficient to produce constitutional effects. I have found the anæsthetic effect from this method only partially successful, perhaps because I have only used it in cases where the patient was in a state of panic and afraid to take H_2O.

As applied to sensitive dentine, cocaine is practically useless, as it does not seem able to penetrate the dentine to any depth. According to one authority, it requires twenty minutes to take effect, which is more time than most of us would care to spend.

In the benumbing of partially devitalized pulps, cocaine is really very useful. It may be used freely in the strongest solutions, if care is taken to prevent any from being swallowed or getting into the mouth.

For some mysterious reason, drugs applied to the pulp of a fully formed permanent tooth are not apparently absorbed in the system.

By the use of cocaine, the pulp may be removed before it has become decomposed, and has still enough consistence to enable the nerve brooch to withdraw the pulp as a whole instead of piecemeal. The pulp cavity may be easily washed out and filled, without fear of any soreness afterwards.

I have found the following successful in every case, except in the treatment of two molars :—First apply the rubber dam to prevent any of the cocaine from being swallowed. Then uncover the pulp as much as possible, which does not cause very much pain in the majority of cases, the pulp being already somewhat exposed from decay. If the surface of the pulp is extremely sensitive, apply some of the crystals of the cocaine to it, and leave them there while getting your hydrochlorate ready. The needle of the syringe should have had the point ground down, and the temper should be drawn, so that it may be bent in any direction. The solution of cocaine used should be at least 20% strong. It is best to keep a supply of the hydrochlorate on hand, and make the solution as it is required, for it decomposes in a few days. Inject two minims. This will cause an unpleasant sensation for a moment, not amounting to pain. If there is still some feeling in the pulp, on applying the nerve brooch, repeat the injection, when the sensation will be destroyed, and the pulp may be removed. Immediately after the removal of the nerve there will be a considerable hæmorrhage, which, however, soon stops ; the pulp cavity may then be washed out and filled at once. The whole operation may be done, and the tooth filled, within an hour, and it is the most satisfactory method of immediate root-filling that I have had anything to do with.

The two molars mentioned above as being unsuccessful were troublesome on account of the difficulty of getting at them with the hypodermic syringe, and also the narrowness of the buccal roots seemed to prevent the cocaine from taking effect on the pulp in them. It is important, in order to protect the needle of the hypodermic syringe, to wash it in clear H_2O immediately after the operation, as the solution of cocaine seems to corrode the steel.

If anything that I have said should prove of use to any of the gentlemen here, the object of this little paper will have been attained.

Proceedings of Dental Societies.

Ontario Dental Society.

The report of the discussions at the meeting in Barrie reached us in time for this number if it had been fit for insertion ; but it is so jumbled and mixed that it is necessary to revise and re-write the whole manuscript. This is hardly the duty of an editor, unless he has nothing else to do. It will delay its appearance until the next issue.

Nova Scotia Dental Association.

By Frank Woodbury, D.D.S., *Secretary-Treasurer*

The first Annual Meeting of the Dental Association of the Province of Nova Scotia was opened on Wednesday, September 30th, at 9.30 a.m., at the Y. M. C. A. Hall, Halifax.

The President, Dr. A. J. McKenna, occupied the chair, and opened the meeting with the following address :—

Gentlemen,—It gives me very great pleasure to meet so many with whom we are associated in a similar work, with similar aims and similar desires. At this, the first regular meeting of the Nova Scotia Dental Association, I feel very incompetent to present you such an address as your intelligence deserves, but I know you will bear with me in this my first effort.

I wish to thank you very heartily for the confidence and trust imposed by placing me in this position of duty and of honor, for I can assure you I feel it such to-day.

Ever since the beginning of my practice in dentistry, I have felt the need of some institution which would bring us together, for an exchange of thought on the different branches of our profession, of our office incidents, and for social intercourse. This was with a view of gaining new knowledge as well as keeping bright and polished

the instruction received in the college course. "College instruction often falls short in practicalizing what is taught." How much theory we hear in lectures which even the professors would not attempt to practice. "What is needed most is better dentists, rather than more of them." This must be one object of this Association ; and how can this object be best attained ? This Association is not a post-graduate course or school ; but, in some measure, I hope it may bring about the same results. "An ideal post-graduate school is a society holding frequent meetings and clinics." You may think this to be too low a standard for this Association to adopt, but we meet here for mutual benefit, for mutual improvement, and "where is the educator equal to the clinic room ?" By what method can we be taught so effectually as by seeing operations performed and by assisting in them ourselves ? If no better method for receiving and imparting instruction can be shown, can we not at our future meetings have an hour or more, as may be expedient, devoted to clinical purposes ?

As I said before, better dentists are needed. Was not that one of the motives which led our neighbors (after many fruitless efforts) to adopt an extension of dental studentship to three years, with six months' lectures in each, and exhaustive yearly examinations covering the course ? Dental unions holding quarterly or biennial meetings, where complete facilities for clinics would be at hand (Halifax should afford such facilities), under the management of efficient men, should supply every need of a post-graduate school and in a better way. Then, too, the reports of these clinics, furnished from within our own borders, would be more interesting to our associate dentists who failed to attend. If Dental Associations are formed in New Brunswick and Prince Edward Island, with Nova Scotia, these three could hold special unions from which much practical knowledge must be gained by the weaker, and the stronger would be benefited by imparting. Beside, a much kindlier feeling must, through such intercourse, spring up and thrive among us.

And now, I would just say, that I trust the same harmony and unity of spirit may characterize this meeting as was notably felt at our former convention. I feel that we all must have come here prepared in some way to assist in making this meeting a success. The business to be done, I trust, will receive your most careful consideration. The papers to be read will be of such an order as

will merit our strict attention, and what must receive our deepest study is the reconstruction or revising of one or more sections of our dental Act, to insure the complete working of it, so that there can be no friction in its machinery. And, in conclusion, I wish to thank you for your kind attention and patience.

The Executive Committee reported the following programme: Papers to be read and illustrated by clinics, "Preservation of Deciduous Teeth," "Reflex Pain," "Filling Roots and Bridge Work," "Orthodontia."

Much time was consumed in the adoption of by-laws, and completing the organization of the Association, after which the officers for the ensuing year were elected: Dr. A. J. McKenna, President; Dr. F. W. Ryan, 1st Vice-President; Dr. A. W. Cogswell, 2nd Vice-President; Dr. Frank Woodbury, Secretary.

An Executive Committee was elected to provide programme for the next Annual Meeting, and were instructed to spare no efforts to provide a programme both interesting and instructive. The meeting was adjourned until Thursday morning. On Wednesday afternoon, at 2 o'clock, the Provincial Dental Board held its Annual Session. The members are as follows: Dr. A. C. Cogswell, President; Dr. H. Woodbury, Dr. C. K. Fiske, Dr. J. A. Merrill, Dr. Geo. Hyde, Dr. M. P. Harrington, Dr. Fred. Primrose, and Dr. Frank Woodbury, Secretary-Registrar.

On Thursday morning at 9.30 o'clock, the Association met. The morning session was occupied with the discussion of dental ethics.

Dr. A. C. Cogswell read a forcible paper on the subject, followed by a spirited discussion. A committee was appointed to draft a code of ethics and report at the next Annual Meeting. The meeting then adjourned.

The next Annual Meeting will probably be held in Kentville.

The enthusiasm which characterized the meeting is a pleasant prophecy for the future of the profession in the Province.

During the years past a strong individual effort on the part of a number of dentists, has resulted at last in a thorough legal organization of the profession. It is pleasing to see the large number of young men who are ready to put their energies into this work, and place the profession on a footing that shall claim the respect of the public. The Dental Law is working well. The number of men registered now are sixty-four.

Several delinquents were reported to the Dental Board. They will be promptly dealt with. The penalties for practising without registration are so heavy, that one example will probably suffice for a long time to come.

The DOMINION DENTAL JOURNAL is made the official organ of the Association.

HALIFAX, N.S., *October 6th, 1891.*

New Brunswick Dental Society.

The second annual meeting of the New Brunswick Dental Society was held in St. John, on the second Tuesday in August, 1891. There was a large representation of dentists, in fact, nearly all in the Province were present. In the absence of the President, Dr. A. F. McAvenney, St. John, Dr. B. H. Torrens, Fredericton, Vice-President, presided. After the reading and adopting of the Minutes of the preceding meeting, the address of the President, Dr. McAvenney, was read by the presiding chairman. In the address the President dwelt on the advantages to be gained by a college training compared with the old system of apprenticeship in dentistry. The great advance in the science of dentistry within the past fifty years were noted, and the enlargement of the field for the dental profession by the increasing premature decay of teeth. He very heartily welcomed the delegates, and referred to some matters which the Society would be called on to deal with He trusted that the work done by the Society would be for the good of mankind at large, and would tend to arouse among the members a greater enthusiasm for their noble profession.

Dr. C. A. Murray read the report of the Secretary-Treasurer. "Professor" Napoleon Ashley, "the king of dentists," had been twice prosecuted during the year for illegal practice.

Dr. J. M. Magee, St. John, reported on behalf of the Committee on By-laws. The report was taken up section by section, discussed, and, with some few amendments, adopted. It was resolved that the dental law and by-laws of the Society be printed and placed in the hands of the members, and that any amendments to the law

be also supplied. It was thought advisable to take some steps to have the dental law amended in some respects, and the following resolution was passed on motion of Dr. Magee, St. John,—That two members be appointed by the Council, and the third by the Governor and Council, to constitute a committee to frame any amendment to the dental law which they deem necessary. The following constitute the committee: Drs. Murray, Moncton; White, Sussex; and Smith, Shediac; the latter being appointed by the Governor and Council. The election of officers was then proceeded with, resulting in the selection of the following: President, Dr. A. F. McAvenney, St. John; Vice-President, Dr. J. W. Sangster, Sackville; Secretary-Treasurer, Dr. C. A. Murray, Moncton. It was decided to hold the next annual meeting in Moncton, on the second Tuesday in August, 1892, when there will be some interesting papers read for discussion, also some important and instructive clinics, as well as some other interesting work of the profession.

MEETING OF THE COUNCIL.

Previous to the meeting of the Society, the Council of Dental Surgeons held their second annual meeting and went through the routine. All the members were present: Drs. McAvenney, St. John; White, Sussex; Sproule, Chatham; Murray, Moncton; Torrens, Fredericton; Camber, Woodstock, and Magee, St. John. Dr. Murray, President, in the chair. After reading minutes, the Secretary and Registrar read his report, which was adopted. The report was very encouraging, showing that the Society was in good financial standing, and that all those who were practising in the Province, and who were qualified, had their names on the dental register, with only two or three exceptions. The resignation of Dr. Magee from the office of Secretary and Registrar was read and accepted. Dr. F. A. Godsoe, St. John, was appointed in his stead. It was moved that unless those who were qualified to register, and do not, after being duly notified by Registrar, within one month after date of notice, they may be proceeded against according to law. Carried.

Royal College of Dental Surgeons, Ontario.

Opening Exercises.

The opening lecture of the School of Dentistry was delivered on October 6th by Dr. Luke Teskey, to a class of about sixty students, of whom about forty were juniors. In his address, Dr. Teskey opposed the idea that it would be an advantage to the dental students to take some of their lectures along with the medical students, urging that the study of dentistry, differing widely as it does from that of medicine, should be carried on in an entirely separate institution. The School of Dentistry, he thought, should be controlled by the profession, so that the standard for graduation could be made as high as the dentists themselves might think desirable. There was some talk, he said, of doing away with the L.D.S. examination, and making the D.D.S., from Toronto University, the necessary qualification for obtaining a license to practice. This he considered would be a serious mistake, as the dentists of Ontario cannot afford to hand over to anyone outside of their own Board of Directors, the right to say who shall or who shall not practice dentistry. Coming to matters which more directly concerned them, he advised the students to throw themselves heartily into the work of preparing for future usefulness, and make the best of their time while at college. In conclusion, he said he hoped that the students would avoid forming loose business habits. Many professional men fail because of the slovenly way in which they do business. To succeed in any profession a man must be prompt and business-like ; and as a start in the right direction he would suggest, that all the students call at once upon the registrar and pay their fees for the session.

Royal College Dental Surgeons' Reception.

Friday evening, Nov. 27th, was the time appointed by the Dean and Demonstrator of our Ontario College, for a social gathering of the graduating class, at the residence of Dr. J. B. Willmott. The boys availed themselves of the invitation by gathering in good

time, and a "good evening's entertainment" was the verdict of all the day after. Through the systematic arrangement of games, solos and impromptu declamations, the popular Dr. W. E. Willmott *demonstrated* practically the fact, that an enjoyable and profitable time can be had, and the conscience of none of the participators be pricked thereby, after cool consideration of the evening's proceedings. An oyster lunch was served, and afforded an opportune interruption. Mrs. J. B. Willmott (with her good man), contributed her share in affording *a home*—for a few hours, at least—to students who have had none since entering the *profession*.

W. R. WILKINSON, D.D.S.

Toronto Dental Society.

The last regular meeting of the Toronto Dental Society was held in Dr. R. G. Trotter's office on October 12th, 1891. The following officers were elected for the ensuing year: Honorary President, Dr. Pearson; President, Dr. W. E. Willmott; 1st Vice-President, Dr. Martyn; 2nd Vice-President, Dr. Spaulding; Secretary, Dr. A. J. Husband; Treasurer, Dr. R. G. McLaughlin.

Odontological Society of Quebec.

By WILLIAM J. KERR, L.D.S., Secretary.

The Society closed a very successful year last May, and entered upon another year last November. The following papers were read last year:

"Filling Materials," E. A. Barton; "Fracture of Inferior Dental Maxillary," C. H. Wells; "The Union Dental Convention," J. A. Bazin; "Electricity in Dentistry," P. Brown; "Professional Hobbies," J. B. Vosburgh; "Cleft Palate,' W. G. Beers; "Reflex Neuralgia of a Dental Origin," A. A. Lanthier.

The election of officers for 1891-92 resulted as follows:

President, F. A. Stevenson; 1st Vice-President, C. H. Wells; 2nd Vice-President, A. A. Lanthier; Treasurer, P. Brown; Secre-

tary, W. J. Kerr; Committee: S. Globensky, J. B. Vosburgh, J. A. Bazin, Geo. W. Lovejoy, J. Brosseau, Stewart Nichol, R. H. Berwick, J. G. Ibbotson.

The regular meeting for this year began on 10th November, when Dr. Stevenson read a paper on "Local Anæsthetics. Dr. Berwick read a paper on the same subject. On the 11th December, owing to the absence of a promised essayist, Dr. Beers read a paper on "Notes on Alveolar Abscess," and a sketch, entitled, "The Voyage of a Velum," descriptive of the "grand tour" made by a velum swallowed by a patient. The Society is very active and doing good work.

Correspondence.

The Laboratory.

Editor DOMINION DENTAL JOURNAL:

Let me add to the excellent advice of "Phineas" in January number, relating to laboratory. Buy a package of *Pyle's Pearline*, get a tin can—a baking powder can is good—and keep the Pearline in it, open and ready for use. It is excellent for all cleansing purposes, and especially for flasks; and (mixed with a little soap and warm water) for cleaning the hands on short notice. I have tried many soaps and find, for office use, Colgate's Glycerine the best. Chloroform on a bit of cloth will remove wax; or gasoline, barring the odor, is just as good. Also a little aqua ammonia added to warm water makes a great improvement in its dirt-removing power, and is valuable in the office as well as at home, especially if the water is not quite soft. If not the barber's basis of "*shampoo*," it is quite as good. Anyone who will try a very little in the water used for cleansing the beard and hair will be surprised the first time by the revelation he will receive. If one in the laboratory will take the pains to bathe the hands freely in glycerine before engaging in any plaster or rubber work, they will be so far protected as to be readily cleansed afterwards.

GARRETT NEWTHIRK,
Chicago.

Re-setting Teeth.

In the September number of the DOMINION DENTAL JOURNAL, I read a plan of re-setting teeth, as outlined by Dr. E. H. Raffensperger, in the Ohio *Journal of Dental Science.* I have for many years practised that plan. The idea, I think, I got from my preceptor, Dr. T. J. Jones, late of St. Catharines, Ont., now of Victoria, B.C. I proceed as Dr. R. describes, only that before waxing my case I scrape the palatal surface, and generally drill a number of holes or pits. If I wish to be very particular, I scrape the lingual surface of the rim of rubber up to the teeth. When packing, I leave the old rubber attached to the teeth, unless the plate had been broken before re-setting. The new rubber attaches to the old, and seems to be as strong as if the old rubber had been removed, without the danger of breaking blocks, spoiling joints, straining pins, etc.

KINGSTON, ONT. R. E. SPARKS.

How Shall I Advertise?

SIR,—My only rival in my town fills the local paper with great announcements, that he has just returned from New York and Boston "with all the modern improvements;" that he has "the only reliable article," etc. Now if he would tell the truth he would not say that, and if he would not tell lies in the paper, I would not object so much, although I think that a certain amount of decent advertising is necessary to reach the scattered districts, and to make known to the farmers out of the towns that their teeth can be saved. But country people are generally honest themselves, and they are likely to believe a good deal in the "honesty" of a quack who may really be the biggest liar out of jail. My humble card appears in the same paper. My dental education cost my father thousands of dollars, and I received a thorough college training. I have been a diligent student ever since; doing nothing else and thinking of hardly anything else but my profession. I am afraid I would come near to starvation before I would resort to the tricks my rival uses. I would rather leave the profession and go to town and drive a

street car. Now, my rival was a poor student; was always what we call "a bad egg;" and from his boyhood was distinguished for mean and cunning tricks upon his friends. In fact his reputation extended beyond the confines of our little town, and gave him an unsavory name a hundred miles away. He "picked up" what he knows by vagrant studentship. But to read his advertisement, you would think a new dental genius had been born, and that those of us who have won by hard study and honesty a reputation among our confreres—who are, after all, the best judges of a dentist—are ignorant and unskilful! How am I to meet such rivalry?

Yours truly,

ONTARIO L.D.S.

[Surely not by flattering a quack by imitation. We cannot conceive of any way of meeting such a rival on his own ground, except by surpassing him by the ingenuity and immensity of lying. The quack who is the greatest liar attracts the most attention. There is, however, a moral and professional compensation in uprightness and integrity, far beyond the passing "success" your rival enjoys. One wants courage and faith in these times to be honest. It needs neither to be a knave.—ED. D.D.J.]

Editorial.

Argenti Nitras as a Therapeutic Agent.

We wish to refer to an important paper in the October number of the *International Dental Journal*, entitled, "What value has argenti nitras as a therapeutic agent in dentistry?" by Dr. E. A. Stebins, of Shelburne Falls, Mass. We had the pleasure of hearing the paper and seeing the patients, at the meeting of the Connecticut Valley and the Massachusetts Dental Societies last June. It is, we know, unfair to the author to epitomize his remarks, but we do the best our space will afford. The Doctor begins by referring to the arrest of caries, frequently observed in teeth, wherein "black spots" or "black crust" is present, and inquires if this condition

can be produced instantly and at will, and so that it will remain. The Doctor has experimented for six years, and this is his first announcement. After quoting from several authorities, as to the action of nitrate of silver in contact with living tissue, and an interesting letter from Professor Mayr, of Springfield, as to its chemical effect on decaying tooth-structure, besides a quotation on its use in the treatment of sensitive dentine, from Professor Taft's "Operative Dentistry," he proceeds to explain his method of using it for the arrest of caries. At the convention, he made his paper doubly interesting by the presence of several of his patients, in whose mouths the treatment had been highly successful. The cases treated by the Doctor varied in age from seventy years old to mere children, extending over a period of six years, and in most of the cases the decay had not returned. One hundred and forty-two cavities, after more than three years, showed eighty-seven to be successful, thirty-three partially successful, and twenty-two unsuccessful—most of the latter being in mouths of patients of delicate constitution.

Dr. Stebins uses pulverized crystals of the nitrate dissolved in an equal amount of water. Hard wood points that will enter very small cavities, put on handles convenient for application, are dipped in the solution. The cavity, or the surface, to be treated, should be comparatively dry. Enough of the powder—about the size of a pin-head—is taken up on the stick, and applied to every part of the diseased portion, the mouth of the patient being protected during the operation. After a short interval, inject plenty of water. The use of the nitrate in the same way is recommended in pyorrhœa alveolaris. The liberated nitric acid should be removed. Further experiment will be watched with interest.

"The Wonderful City."

Chicago is sometimes called "the windy city;" but its worst enemies must admit it is a "wonderful city." How it grew between 1830 and 1872, from seventy inhabitants to nearly three hundred and sixty-five thousand, and how it is growing into the million, everbody knows. How its merchants had such a reputa-

tion, that when the great fire destroyed books, securities and everything but reputation, the faith of the people in themselves, and the confidence of their creditors, enabled them to revive trade, rebuild the city, and make it one of the modern marvels of architecture, everybody knows. The atmosphere of lake and prairie stirs the soul and stimulates the brain, even when you have *la grippe*. To many a quiet man, it is doubtful if there is compensation enough to induce him to live in the terrible whirl of its existence. Everybody is on a rush. Even the loafers move quickly. And it pleases a dentist to see the amount of "go" in the profession. The quacks of Chicago represent the very quintessence of quackery. Bad and good are intensely bad and good. The leaders of dental thought and action are ahead of the world. All the world is going there in 1893, and Chicago does not intend to let the rest of the world show it anything it does not already know.

Among the many distinctions the splendid city enjoys, we were interested to learn that it aspires to the professional one, of having a dental college for every one hundred of the inhabitants. However, our visit to the Chicago Dental College, of which Dr. Truman Brophy is Dean, Drs. Haslam, Johnson, Swasey, Ottofy, Gardner, and others, are Professors, was a revelation in dental education entirely new to our observation. Through the personal courtesy of Dr. C. N. Johnson, an old Ontario boy, and who has identified himself with Chicago, as any good citizen should, we had a most thorough insight into the whole system of teaching in the college. The results of the teaching were open to the eyes of any one who could see; and it was a great inspiration to witness the zeal on the part of the professors, and the remarkable attention and devotion on the part of the students. Each student in the laboratory and the operating room, seemed as interested in excelling as if he was engaged in his private practice. A fine and generous spirit animates the class, and an unselfish sense of duty the professors. While giving very strict attention to theoretical and technique teaching, the practical departments excel anything we ever saw before. We say this in no invidious spirit, as we bear warm feelings of grateful recollection to other schools, and it may be all in the atmosphere of Chicago, as Michel Angelo thought the pure air of Arezzo favorable to genius.

Advertising Again.

If we examine the trade and commercial advertisements of the daily press, we will find the so-called art of advertising often reduced to the meanest depths of falsehood. When a fourth-class circus or theatrical troupe herald their advent by extravagant splashes of design and color on the fences, the fools who have been caught a dozen times are just as apt to be fooled a dozen times again ; and in spite of costly experience, people are entrapped by the repeated lying of the retail merchants, who advertise with a flourish of trumpets and a profusion of type. Any man, however he may murder the Queen's English, can gather gaping audiences by the hour round a waggon, to listen to him dilating upon "education." Cities like Toronto and Montreal, containing medical colleges which are recognized by the first institutions of Europe, and many of whose teachers are world-wide known, will furnish immense patronage to any debased quack who has the temerity to boast of his exclusive skill, and the shamelessness to lie theatrically. Quacks come and go, and so do dupes.

To young men who start in life there comes the moment when they have to choose between the two paths—one of honor, though of struggle ; the other of ease, though of fraud. We may err in our convictions, but we have always believed that the decision was an unconscious exposure of one's true character. When a young man, with all the world before him, resorts to disreputable advertising, with a lie in almost every line, it is conclusive proof of his personal immorality. It may be that he was intended for a burglar, but accident slid him into dentistry. Every student of the psychology of criminal law is aware, that some men seem born to be rascals, as some are born to be poets. The one will rob as instinctively as the others will rhyme. Experts declare that murderers like Birchall are but the creatures of fate, bad from birth. It may be that the mendacious dental advertiser is an irresponsible being.

However, there ought to be neither personal nor professional intercourse with men of such disrepute. If any portion of the public choose to believe that they possess exceptional skill and ability, when they are well known by the profession to be impos-

tors, it ill behooves respectable members of the profession to identify themselves with them, personally or professionally. They only lower themselves to their level. The man who is low enough to advertise his own imposture, and who is insensible to shame before his own profession, will be base enough to take any advantage he may secure by being seen, even by accident, in respectable company.

"A Cap that Fits."

In the prosperous days of Napoleon the Third, Victor Hugo made the following sarcastic remark: "When the Paris police overhear anyone using the terms 'ruffian' and 'scoundrel,' they assume you must be speaking of the Emperor."

It is very suggestive that our remarks upon quackery have been appropriated to themselves by no less than four offenders against professional decency. The quick consciousness that they were the parties meant, is a refreshing illustration of the fact, that no matter how low a man may descend in the degradation of himself and his profession, he hugs to himself the delusion that he is actually blacker than he is painted! The object of a code of ethics is not to send every offender to professional perdition, but to protect the public from a class of men who are liars as a matter of investment. As dentistry emerges from its rude and barbaric origin, its members naturally aspire to elevate the social and professional tone; and when shams of no ability force themselves before the public, with pretentious insolence, it is proper that they should be ostracized. Quackery does not pay in the long run. It has never paid in Canada, and it never will. Any charlatan can get public notice and patronage if that is all he wants. It is only a matter of advertising. "'Tis as easy as lying." He can fool the public to the top of his bent, and they will cry, "More!"—for awhile. It is our duty, as the organ of the Canadian profession, to warn young men from following in the path of these impostors. The most of our dentists are educated men; and while we sympathize with the difficulties which meet those who are honest, and who are discouraged by the cupidity, not to say stupidity, of a portion of the public, it would be better to abandon the profession as a means of

living, than to depart from integrity and truth-telling. The advertising liar can never remove the stigma from his professional name.

Code of Ethics.

One of the worst offenders against the code of ethics on this continent has written us a letter, for which he asks insertion. If he could tell the truth, even by way of variety, we would oblige him, but consistently with his "professional" life, his moral life is on a par, and we could imagine nothing more funny in the way of apology for wrong-doing, than a defence by Satan of sin. Coincidently with this letter, he liberally repeats his falsehoods before the public, while attempting to extenuate them before the profession. If there were any evidence of sincerity in his protestations, we should even then hesitate to trust his motives. You may muzzle a mad dog, but, if you remove the muzzle the next day, the recollection of the muzzle will not prevent his bite. It will take many a day of repentance before we can forget or forgive a schemer, who has made every honest man ashamed of his profession. One extract from his letter will suffice: "Give me public recognition by the Society, as a qualified and reputable practitioner, and I will bind myself in bonds (!) not to advertise as I do, and I will subscribe to a fund to punish all who do." (!) There is refreshing impudence, with a vengeance. It reminds one of the saying in the days of MacAdam, "As no roads are so rough as those which have just been mended, so no sinners are more intolerant than those who have just turned saints." It was once a fashion in England to employ reformed thieves as detectives. It would be a lively employment to engage the liar-quacks of dentistry as the reformers of the profession. There is nothing more hateful than a liar. When a liar utilizes his peculiarity in his profession, then *facilis descensus Averni.*

We reserve for a future issue further discussion on the subject of the Code.

Reviews.

Dental Medicine. A Manual of Dental Materia Medica and Therapeutics. By F. J. S. GORGAS, A.M., M.D., D.D.S. Fourth edition. Revised and enlarged. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut Street. 1891.

This new edition of the work of our industrious confrère in Baltimore, proves that its author is determined to make it an indispensable text-book for the student, and a ready reference for the busy practitioner. Much new matter has been added, bringing the work up to the times. The diagnosis of the affections of the mouth, the remedial agents, the properties, actions, uses and modes of application of the substances classed as dental materia medica, are carefully presented; while new matter has been added on the use of antiseptics.

In the examination of students, whose education has been limited to the curriculum of the dental colleges, there is perhaps no subject in which more confusion, and frequently ignorance, is displayed, than in the branch of dental materia medica and therapeutics. Dr. Gorgas' work covers the field as fully as modern dental education demands; and no matter how much a man may know, or imagines he knows, on this particular subject, the volume will bear earnest study.

Defective Personal Hygiene as it Affects the Teeth. By GEORGE CUNNINGHAM, M.A. (Cantab.), D.M.D., L.D.S., Eng. J. P. Segg & Co., 289 Regent Street, London W., England.

This very interesting reprint, from the *British Journal of Dental Science*, of a paper presented by Dr. Cunningham, in the Seventh International Congress of Hygiene and Demography, has been made accessible to the profession and the public in convenient form. The subject has been a labor of love with Dr. C., and neither dentist nor patient can afford to be ignorant of its teachings.

Nitrous Oxide Gas Viewed from a Practical Standpoint. By JOHN D. THOMAS, D.D.S., Lecturer upon Nitrous Oxide at the University of Pennsylvania. Reprinted from the *Cosmos.*

The experience derived by the author from exclusive practice in this department, makes his opinions orthodox. It was described at the time it was read, as "the best paper on nitrous oxide to which the members had ever listened." No higher praise is necessary.

Abstracts from the Journals.

Divided Mercury in Thermometers.

In the *Dental Office and Laboratory*, Dr. C. H. Gilbert suggests a simple plan for re-uniting the mercury in the thermometer of a vulcanizer when divided. All that is necessary, he says, is to heat the vulcanizer with dry heat until the mercury fills the tube; as it cools it will be found to have coalesced perfectly.

He Knew His Measure.

A dentist at Bristol, Pa., received an order for artificial teeth from a man in another town, with details as follows: "My mouth is three inches across; five inches through the jaw; some hummocky on the edge; shaped like a horse-shoe, toe forrard. If you want me to be more particular I shall have to come thar."—*Items.*

Keep Clean.

An unkempt, slovenly, dirty dentist is a nuisance. If you can't afford nice professional clothes, shut up shop and earn them at the anvil or in the potato patch. Look neat and clean anyway. Starve yourself if necessary, but look presentable. Keep your mouth

clean, too, and your breath. Away with that nasty stuff that so defiles the whole body. The idea of burning it in your mouth and making a chimney of your nose! it is an offence to your best customers. Have a bath tub and get in it often and scrub yourself till you shine. The best cosmetic is thorough rubbing, and the best perfume is cleanliness.—Editorial in *Items of Interest.*

Implantation of Artificial Teeth.

Dr. Znamensky, Professor of Odontology in the Imperial University of Moscow, claims that he has successfully implanted artificial teeth, both of rubber and porcelain, and that they have become fixed and as useful as natural teeth. He perforates the root, and says that granular tissue grows through these openings, which eventually ossifies and retains the artificial tooth in its alveolus with remarkable firmness. He has experimented upon the dog as well as upon man, and says that the results are the same whether the tooth be of porcelain, metal, or rubber.

Temporary Sets.

In inserting temporary sets immediately after extraction, it is usually thought advisable to have the anterior teeth project upwards about a third of their length into the sockets of the former teeth. In fitting these, however, it is sometimes difficult to decide just where to cut into the cast, as the loose edges of the gums turn inward and obscure the outline of the alveolus while the impression is being taken. To overcome this, Dr. Driscoll, in the October *Items*, advises the use of rolls of soft wax inserted into the sockets in such a way as to come away with the impression. These are then trimmed to the depth the teeth are intended to go, the result being that the teeth if filled to the model, will go to place in the mouth without infringing upon either the gum or the alveolus.

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Original Communications.

Pharisaical Dentists.

By A. H. HIPPLE, L.D.S., Stratford, Ont.

In reading the reports of dental conventions held in various parts of the United States and Canada, we have noticed that there are two men who rarely fail to put in an appearance on these occasions. They possess a little more than ordinary professional ability, and have a reputation for doing "high-class work" which they are anxious to extend. They do not usually take very much part in the discussion of those physiological and pathological problems that are just now agitating the minds of dental scientists, nor do they condescend to favor their professional brethren with suggestions of new methods or clever devices whereby the routine of every-day office work may be made a little less irksome. When they do rise to read a paper, however, or take part in a discussion, it does not take them long to convince their hearers that they are not like other men, and that the class of work done by ordinary dentists would never do for *their* patients. One of these gentlemen is the dentist who seldom inserts plastic fillings, and never uses anything but gold as a base for artificial dentures; the other is the dentist who rarely, if ever, finds it necessary to extract a tooth. Our attention has been called to one of these latter gentlemen by the publication in the *Archives of Dentistry* of a paper read by Dr.

Morrison, some time ago, before the St. Louis Dental Society, of which the writer, according to an editorial note, is very proud. It is entitled "Anti-extraction," and is a fair sample of its kind.

In the first paragraph Dr. Morrison says: "Out of one hundred teeth extracted daily in this city, ninety-nine should not be extracted, but should be carefully and painlessly cleansed from soft decay at the margin (not over the pulp), and filled with some non-conducting cement, and kept filled, imperfectly though it may be." Now, does Dr. Morrison want us to infer from this that ninety-nine out of every hundred teeth extracted in St. Louis have living pulps? If so, it would be of interest to some of us to know how he manages to cleanse them painlessly, what cement he uses that is non-conducting, and whether this invariably relieves the tooth-ache. Following this he devotes a paragraph to the "worthy cheap dentist," who he thinks might do an immense amount of good "if he would confine himself to legitimate cheap dentistry." Probably Dr. Morrison thinks it would be well for the "worthy cheap dentist" to confine himself to treating and filling teeth, in the manner above described, for such patients as high-class dentists might see fit to send him. A little farther on he says: "There is no truth in the saying that any tooth or root cannot be filled." Giving his own experience, he continues: "For years I have extracted teeth or roots only when they were so loose that they could be removed with the thumb and finger, and I most heartily wish every other member of the profession would adopt that rule. There should be no artificial dentures made by the future dentist," etc., etc.

Now, if all this means anything at all, it means that Dr. Morrison would never extract a badly decayed first molar for a child, no matter how crowded the teeth might be; that a tooth erupted in some abnormal position—say into the roof of the mouth, would be left untouched even though it might interfere with the movements of the tongue; that a patient would be allowed to suffer for years with an impacted wisdom tooth; that a temporary cuspid, if firm, would be left in the mouth while its permanent successor was growing in such a direction as to threaten to penetrate the lip; and that, in short, in order to carry out a theory he would disregard those conditions which nearly all writers on dental science have agreed upon as indicating extraction. It means, further, that he

can satisfactorily fill all classes of teeth and roots, no matter how badly decayed, how long diseased, or what their position may be; that a syphilitic or scrofulous diathesis of the patient does not prevent his putting all the dental organs into a healthy condition, and that in short, all dental lesions yield to his conservative treatment. Is anything more needed to convince anyone of Dr. Morrison's high standing in the profession or his ability as a dentist?

Now, although the article in question abounds in ridiculous statements and extravagent language, it is quite harmless, and would be unworthy of special notice were it not that there seems to be a tendency on the part of some practitioners to "show off" at dental meetings. They talk so familiarly about the use of matrices when inserting gold fillings into cavities that are almost inaccessible, that those of us who in such cases are glad to work in a little amalgam with a burnisher are ashamed to say anything about it; they have "been so very successful in their treatment of pyorrhœa alveolaris," that we don't feel like standing up and reporting that of the half dozen cases we had last year, we only succeeded in curing two; in the treatment of roots they find so little difficulty in filling every root canal to the apex that we feel as though it is all our reputation is worth to say that more than once we have probed around for half an hour without being able to find a canal at all. The result of all this is that many refuse to take part in the discussions, because they have nothing wonderful to report, and much valuable information is lost to the profession. It is true, it requires courage to report failures, and discuss their probable causes, but the really progressive and scientific men are not ashamed to do it, and those who for the sake of notoriety make pretensions to ability they do not possess, should be treated with the contempt they deserve.

Dental Dots.

By D. V. Beacock, L.D.S., Brockville, Ont.

It is the duty of every dentist to call the attention of his patients to the state of their mouths; to impress upon them the great importance of cleanliness, etc.

To drill or enlarge the hole in pivot crowns I use a copper mandrel in engine with corundum powder and glycerine.

Gruff manners often grow out of thoughtlessness, but they often seriously militate against the dentist's influence.

So long as the tooth is alive, any foreign body that may chance to come in immediate contact with the dentine will irritate it more or less. Where there is plenty of living matter, as in deciduous teeth, this irritation will be more intense than upon a filling of some protective and non-conducting material.

Untidyness at the dental chair is dangerous as well as disgusting, and should not be tolerated or allowed by any respectable dentist.

A lesion in either the soft tissue or hard tooth tissue differs only in degree, and the same law of rational treatment will apply to both.

How often do we find well dressed patients come into the office wearing fine clothes and bedecked with jewellery, asking us to use the cheapest material for their filling ; and a majority of the weaker sex will spend more money in one year with their milliner than with their dentist in the course of their whole life, yet they will complain and feel the tax of the dentist the heavier of the two.

By using a fusible metal that melts considerably below the boiling point of water, I can take an impression with modelling compound, pour the melted metal directly into the impression, and have a model for use in less than five minutes. It is as hard as zinc. I always melt it in water ; this prevents it oxydizing and keeps it bright and clean, and no danger overheating the metal. No matter how long it is left on the gas or fire, the metal pours nicely at about 160 Fah. Uses : In crown work for getting cast of root and surrounding parts, for immediate work, no waiting for material to set. For quickly making a mandrel for forming ferule. For quickly making die or counter die for striking up a small piece of plate for repairing or strengthening a rubber plate. Excellent for regulating cases, giving us a very hard model to fit and bend piano wire and fit clasps accurately, without having to send patient away till plaster model sets. It can be poured into a plaster impression without waiting till it dries.

A piece of rubber tubing slipped over a tooth is good to keep in a dressing when the shape of the cavity is such that it is not retensive, especially when the tooth is isolated or standing alone.

I sometimes use a very thin piece of this tubing for putting over a zinc plastic filling to keep it dry for a day or two.

In filling the posterior cavity of lower bicuspid the six year molar being out, use a thin piece of Taggart tin or any similar material, pack it or reinforce it with modelling composition ; it then becomes an easy matter to fill it.

It often happens that while we are deliberating on the time to do anything, the opportunity for action is forever lost.

Gutta-percha, or Hill's stopping is very useful for retaining dressings, arsenic, etc., also useful when used as a matrice, packed in between the teeth when filling.

Any favor is much enhanced by being promptly conferred, while delay frequently depreciates its value, and often renders it useless.

We should always remember that the ends of very delicate tubules are exposed, and that the fracture of any mechanical injury to this tubular surface in the cavity of any tooth, is the first step in the long train of evils which may follow the careless filling of any tooth. Unless the tooth is dead these tubules contain living and very sensitive matter—tissues in which life's forces are constantly going on.

It is said that in the United States there is one dentist for every 4,000 inhabitants.

Gutta-percha should be kept in well corked bottles, as it contains more or less fatty matter which in time evaporates by exposure to the air, and thus deteriorates its value for dental purposes.

Amalgam was first used in 1835 ; it was simply coin filed up and mixed with mercury. A person named Crawcour first used it in New York.

Buy a small curved drop-tube or pippet at the druggists', put in a wick filled with alcohol, by removing the rubber bulb. Light with a match and you have a very handy little flash lamp, just as good as if you paid two dollars for the one that is on the market. Useful for setting crowns, repairing old gold fillings, removing crowns that have been set with gutta-percha. Any dentist can make it, and it only costs five cents [We acknowledge receipt of one from Dr. B. It is simply perfect.—ED.]

Why He Could Not Make Copper Amalgam.

By R. E. Sparks, Kingston, Ont.

He was a venerable member of our noble profession. He was not educated in any of our dental colleges. He professed before they existed. He was making a fraternal call. We chatted about everything in general, and dental subjects in particular. He suddenly lowered his voice and looked enquiringly into our face and asked, "I say! do you know anything about making copper amalgam?" We had to confess our comparative ignorance of the modus operandi. "Well," he continued, confidentially, "I read that if one would dissolve some sulphate of copper, and suspended an iron bar in the solution, metallic copper would be deposited, so I got some copperas and dissolved it, immersed my iron bar, got no deposit. What do you suppose was the matter?" As soon as we became sufficiently composed to speak, we explained what was the probable cause of failure in the experiment.

A Case in Practice.

By R. E. Sparks, Kingston, Ont.

A gentleman called upon me about two years ago, suffering from sore throat on the left side, neuralgic pains in ear and side of face and head. His physician had been unable to treat the trouble successfully, or even to diagnose the cause. I found, upon examination, that he was biting his cheek severely between his wisdom teeth. I removed the upper one and dismissed him. A few days since he returned to my office and reported having derived immediate relief after the operation.

This time he had come to have another tooth extracted, as he was biting his cheek opposite his first molars upon the same side. Upon examination I found a tumor, about as large as a good sized pea, upon the inside of the cheek, opposite the teeth mentioned. His teeth were sound but worn off flat. The outer edges were quite sharp. His cheeks were fleshy, and as soon as he opened

his mouth the tumor passed in between the teeth, and lay in position to be bitten when his teeth came together. I ground off the sharp edges of the teeth, grasped the tumor with a pair of tongue forceps and drew it gently into the mouth, while my assistant held the cheek in position with a mouth mirror. The tension upon the tumor made it an easy matter to snip it off at its base with a pair of curved scissors. A jet of cold water thrown into the wound from an ordinary dental syringe, for a few minutes, stopped the slight bleeding which had taken place. The patient left delighted that he had been relieved of his trouble without the loss of his grinder.

A Convenient Method of Adding New Teeth to Old Plates.

By R. E. Sparks, Kingston, Ont.

Dry the plate and stick on a piece of soft wax opposite where each tooth is to be added. Replace the plate in the mouth. If the case be one where the teeth to be added are to replace some which have been extracted, press the soft wax up over the gum. This gives you an impression of the part with the plate in place. While the wax is still soft have the patient close the mouth. This gives you an articulation opposite where the teeth are to be added. While the mouth is shut, see that the wax is not forced away from the gum by the occlusion. Then with a pledget of cotton, dipped in cold water, the wax can be hardened in a moment. You may now dismiss the patient. Remove the plate and run cast. As soon as hard, turn over, and run a little plaster in the aticulation, letting it extend to a couple of the teeth on the plate. When this is hard, lift off, and remove the wax. The teeth may now be ground and articulated. This method saves much time for patient and operator and ensures accuracy, and may all be done by the laboratory assistant except the taking of the impression and articulation.

Notes for the "Journal."

By Dan. McPhee, L.D.S., Arnprior, Ont.

Dentists who are in the habit of using an articulation, will find it advantageous when making an upper plate on rubber (full or partial), to take an impression of the under teeth also. When this is done, insert the model jointly into the occlusion left by the under teeth in trial bite, then put the case into the articulator. In this manner bubbles will be avoided, and there will be less danger of breaking the plaster teeth than there is when the plaster is run into the bite.

For an easy and safe method of extracting the roots of the right inferior molars, use a pair of upper bayonet alveolar root forceps, and stand at the left and front of the patient. In this position the operator is not apt to strike the forceps against the upper teeth, either by a sudden break or removal.

Filling material for children's teeth, second dentition. I approve of the best plastics, or other good preparations of a similar nature, until they have arrived at the age of seventeen. These plastic fillings harden and strengthen the tooth while developing, and when they are properly put in, they will arrest further decay. Of course, teeth temporarily filled should be recapped when necessary, until the patient is at the proper age for either gold or amalgam fillings. The cavity may in nearly every instance be prepared with sharp and well adapted excavators, and thus the child will be relieved of the horrors of the "boring machine."

When there are any doubts about permanently filling a treated tooth, try dipping a pledget of cotton in a plastic filling mixture (liquid and powder) and fill the cavity for a time. It hardens and excludes moisture and can be readily removed. The cavity must in all cases be thoroughly dry preparatory to the insertion.

After opening flasks for removal of wax plates, insert the parts into warm water. This will loosen the wax from the teeth and plaster, and in many instances cause a clean removal.

Ethics and Quackery.

By L. D. S., Ontario.

A good deal is being said about ethics, quacks, and advertising. Let me offer a thought or two.

For the sake of illustration I will note an instance or two from actual practice. Two years ago a man sent to me his son who had "toothache." I found two adjoining teeth badly decayed, and told the boy that probably both were aching. He insisted on having the one he thought ached extracted. Some time later I presented my bill, which the father refused to pay, saying, I had extracted the wrong tooth, that his son had toothache on the following day after consulting me, and he took the boy to Dr. ——, an elder professional brother, who extracted the aching tooth, saying, I had extracted the wrong tooth (any dentist might make that remark under similar circumstances, believing it to be true). The man considered Dr. ——'s statement justification for treating me with slander and abuse (as I learned).

Another case, a young lady having a tooth in which the nerve was exposed. I filled the tooth by one of the many methods recommended for capping nerves and filling such teeth. Some time afterwards the tooth gave discomfort, and the lady consulted another elder brother in the profession, who removed the filling, saying, that I "did not fill the tooth right." He filled it "right." Later, the relation of the whole proceeding formed part of the conversation at a social evening among a circle of friends (let us say). The slanderous gossip used by this young lady, she evidently considered herself justified in, and was not slow to act on it, and, among other remarks, said to my student, who was present, "You were foolish to go with him, you'll learn nothing there."

Many similar cases have come under my notice here and elsewhere. I don't refer to them to censure anyone in particular, for, who can disclaim responsibility when meeting with such cases?

I have frequently been consulted by parties who have been "badly handled" by some other dentist, and when I hear such expressions as "He's no good," "He's too nervous to pull a tooth," "He can't see to fill a tooth right," "He scooped it out too much," "He didn't kill the nerve, and my tooth ached after he

filled it," I have no alternative but to think that, sooner or later, similar remarks from similar sources will be heard with reference to myself, and, in daring to operate for some I am running the gauntlet of abuse and slander.

Is it not true that dentists too often cater to the absurd notions entertained by many?

Rank misconstructions go unchallenged under the very noses of men who have spent a lifetime in dentistry, men whose publication of name and profession has been confined, ostensibly at least, to that of the plainest shingle or the professional card.

Surely part of our duty is to protect each other's good name, or ethics has no application to dentistry.

On being consulted by a pessimistic patron, a dentist may, by manner, if not by words, express what amounts to, or what is readily construed into, a mild condemnation of another's operation, method, or choice of methods, and while, by "filling it right," or by "pulling the right tooth," one may gain the confidence of the individual which a former has lost, which confidence is, to say the least, cheaply won, and usually worth—what it cost. The respectable, ethical, professional man, by his social position, which, more than by his professional attainments, is qualified for good or ill, that no quack is capable of. Both operate through the same medium, namely, the public mind, and through this medium, their influence, on the profession as well as on the public, is chiefly felt, for no man's advertising is confined to his shingle or professional card.

Without saying anything further for the present, I should like to hear how my short experience compares with that of other dentists. Have I been unfortunate in meeting with more than my share of the, shall I say, unmanageable element of dental patronage?

One Step in Advance.

By Oliver Martin, L.D.S., Ottawa, Ont.

Although much has been said on the subject of filling teeth, it is one that is always of deep interest to the dentist, every point made is noted, and a trial given, to test the merits of the new idea, whether theory or actual work. After so many years of experience, it would appear almost impossible to add anything new of importance in the method of filling teeth, for, after all, it is but a method

of preserving teeth as long as possible, yet it has taxed the ingenuity of the ingenious dentist from its conception to the present time. He is not yet satisfied ; it is not likely he ever will be.

This feature in the dentist's character is commendable. It stimulates him to greater perfection, and still greater as he understands that there is no such thing as absolute perfection ; everything must go on and improve for ever.

In accordance with these remarks, I wish to advance one step more in the manner of filling teeth, as I have no fear of the dentists becoming wearied of the subject.

The use of gold foil appears to prove itself superior for filling teeth, but it is difficult of manipulation, as the least moisture spoils its cohesive properties. To overcome this, the patient's mouth is filled with napkins, paper, rubber dams, propped open with corks, jack-screws, until the eyes bulge out as if in the last agonies,—and the dentist, in a nervous state at the rapid flow of saliva, knowing full well that after all his work of preparation he is likely to lose a good filling before he can finish it, as it will take an hour. It is to overcome these difficulties in large gold fillings, at the same time remove a tax from the patients, that will bring more than many thanks for the dentist.

I now speak of large gold fillings. Foil will always be used in small fillings of ten or fifteen minutes, but when it comes to a half hour, the system I shall propose is preferable. We will take, for example, a patient : three large gold fillings are to be inserted ; it will take at least three sittings, but often more. Prepare the cavities only at the first sitting, take an impression of them (wax is as good as the other materials), place your temporary filling of wax or guttapercha, and dismiss your patient without fatigue to the patient or to the dentist of consequence. The difference is, you intend to make a perfect filling for these three teeth in your laboratory at your leisure, independent of saliva. Mix enough plaster with fine plumbago to hold the plumbago together, and set ; oil the wax impression as for an ordinary plaster cast. While you are preparing the gold, place your mould to dry on the oil stove ; use 22, fine gold, which is coin. It is fine enough for any filling ; it will never change, but it will resist more attrition. The mould can be made of the plaster and plumbago alone, but small flasks in the form of the ordinary moulding would be

better. The plaster mould should be tied together with a narrow band of tin, or stove-pipe iron. Your three moulds ready, and placed in convenient position, melt your gold in a small crucible, and pour quickly ; it will not do as well to have two fillings in one mould, as one or the other is likely to be imperfect. If the mould is well made, the filling requires but little trimming ; the sprue cut off, it is ready. As every dentist understands moulding, it is unnecessary to explain it. You now have three fillings ready. When the patient makes her appearance, you feel no dread of saliva ; the first filling is freed from the tooth, the cavity cleansed of wax particles, you try the fit of your gold filling, and trim so it will enter the cavity readily. Test the articulation, and trim accordingly. Everything being ready, a single napkin is all that will be needed. Mix your oxide-chloride of zinc, or other of the plastic fillings—the oxide-chloride adheres to metals very firmly, and is preferred on that account. Where it does not cause too much irritation, line the cavity with it, using but little, but enough to be pressed out. When you press in your solid gold filling, there will remain just enough to fill the imperfect adaptation of the gold, and this is what is most needed. All the fine pits and lines of the cavity are filled, which is seldom accomplished with foil, up to the thin edge of the enamel. Owing to the nice fit of the gold, there is but little oxide exposed around the walls of the cavity to be acted upon by secretions, and the action is not the same, owing to the presence of gold, which plays with zinc. It will endure as much as the tooth substance, unless too much is exposed owing to a bad fit ; in such a case, remove a little of the oxide, and fill with foil, which is the work of but a few moments. In finishing the filling do so from the centre of the filling towards the surrounding walls, as it spreads the gold over the thin line of the oxide. The antagonizing of the teeth will also spread the gold. Still there will be little danger of decomposition, as it is but a film, and preserves bone very well.

Whatever defect occurs to a filling of this kind is from the exterior. In this manner your three gold fillings are inserted at one sitting, with but little trouble to your patient, and the satisfaction to the dentist that he has inserted solid gold filling that will stand the test of time, with but one napkin. In the case of incisors, bicuspids, or any of the front teeth where the cavity is arc-shaped

and cutting edge is required, it will be safer to drill a small hole through that part of the filling where, when it comes in contact with the cavity of the tooth, a shallow hole can be drilled into the tooth that will not endanger it, or give the patient much pain, of two or three threads ; then tap the end of a gold wire the size of the hole in the filling, and screw it in gently. After the oxide has hardened, cut it off and finish. Such a filling will stay, and stand to cut in molars. Where it would be deemed necessary, two screws can be inserted. In this way a large gold filling can be inserted in a useful third molar of the lower jaw. In many cases amalgam is objected to on account of the mercury, but tin is as favorable in the mouth as gold ; they can be cast in the same manner, with little trouble, as it melts easily. The technical points are hardly necessary to mention, as all practitioners are acquainted with them. But the principle of forming the fillings for large cavities in the laboratory instead of in the patient's mouth, doing away with the dangerous hand pressure, the terrible mallet, according to the patient's version of it, the fatigue of opened mouth for an hour and a half and more, clamps, dams, cords, weights, all to fight away the saliva in order to produce a solid gold filling ; this is the step in advance. As we improve we can simplify. There are many advantages in this step in advance filling,—it is a solid gold, or tin, filling, with more power of resistance than what can be produced with foil. It can be held in any form of cavity, with wire screws if it comes out ; it can be replaced with fresh cement, at little expense to the patient. This will be quite an inducement to patients to have their teeth filled with gold. The foil filling will not allow to be drilled into ; this will, and the many devices that can be brought into play on account of this privilege will soon manifest itself to the dentist, who will feel confident of securing his fillings. The cavity of the tooth should be shaped so as to allow the impression to come out without drag on the wax. Time will be saved by this in the adjustment of the filling. Now we can place a solid gold filling in any tooth, in any part of the mouth, with less trouble, and a more permanent operation, than a small foil filling in the front teeth.

Legislation.

Draft of Proposed Dental Amendments to the Ontario Dental Act.

(Suggested by the Ontario Dental Association.)

1. BOARD OF DIRECTORS.—That the Board of Directors, of the Royal College of Dental Surgeons, be elected bi-annually by closed ballot forwarded by mail, each licentiate to have the privilege of voting for all seven candidates.

The details of the election to be fixed by by-laws to be passed by the Board, so that any necessary amendments in such details may be made without going to the Legislature.

2. PENAL CLAUSE.—That the clause of the Act be so amended as to read "No person who is not a member of the said Royal College of Dental Surgeons of Ontario, shall practice the profession of dentistry or perform any dental operation upon or prescribe any dental treatment for any person, or shall pretend to hold a certificate of license to practice dentistry, or that he is a member of the said the Royal College of Dental Surgeons of Ontario, or shall falsely represent or use any title representing that he is a graduate of any dental college. Provided that nothing in this clause shall prevent any person from giving necessary aid to any one in urgent need of it, provided that such aid or attendance is not given for hire or gain, nor the giving of it made a business or way of gaining a livelihood by such person."

3. ETHICS.—To add a section to the Act providing that any dental practitioner who shall, after due inquiry, be judged by the Board of Directors to have been guilty of infamous conduct in any professional respect shall thereby forfeit his right to registration, and his name shall, if registered by the Board, be erased from the register.

Provided that all such decisions by the Board be subject to appeal to the proper courts of the province.

4. FEES.—That funds may be provided from which the necessary expenditure for the due enforcement of the penal clause of this Act, and the ordinary expenses of the Board of Directors may be paid, each licentiate shall pay an annual fee not to exceed the sum of Three Dollars, the amount (less than that) to be fixed by the Board of Directors from time to time as may be necessary.

All expenses connected with the examination of students and the carrying on of the School of Dentistry to be paid from the ex-

amination fees paid by the students presenting themselves for examination.

5. TERM OF PUPILAGE.—That the Board of Directors be asked to extend the course of lectures for the students in dentistry from two to three sessions, and the whole term of pupilage to three and a half years.

Proposed Amendments to the Dental Act.

(Suggested by the Eastern Ontario Dental Association.)

SECTION THREE.

1. The Board of Directors of the said college shall consist of seven members, who shall hold office for two years, and of whom four shall form a quorum.

2. Each member of the Board must be a member of "The Royal College of Dental Surgeons of Ontario," and must also be an elector in the electoral district which he represents, as is hereinafter provided.

3. No teacher, professor, or lecturer in any college or school of dentistry in the Province of Ontario, shall be a member of the said Board of Directors; and any member of the Board who becomes a teacher, professor, or lecturer, in any college or school of dentistry in Ontario, shall immediately cease to be a member of the said Board of Directors.

4. Any member of the Board may at any time resign by letter directed to the Secretary, and in the event of such resignation, or of a vacancy occurring by death or otherwise, the remaining members of the Board shall elect some fit and proper person to fill the vacancy for the remainder of the time from the members of the electoral in district which the vacancy in representation occurs.

5. One member shall be elected from each of the electorial districts mentioned in schedule A to this Act by the members of the college resident in such district.

6. In the case of any member of the college removing from one electoral district to another, he shall immediately notify the Secretary, who shall cause his name to be removed from the list of members in said district, and transferred to the list of members in the district to which he has removed, provided he has so removed at least one month before the close of the nominations.

7. Elections of the Board of Directors shall be held on the third Tuesday in July in every second year.

SECTION FOUR.

1. The Province of Ontario shall be divided into seven electoral

districts, numbered from one to seven, and the constituent elements of each district is shown in schedule A to this Act.

2. Any five members of the college of any electoral district may nominate any member of their district as a candidate at the ensuing election for members of the Board of Directors, by sending to the Secretary a nomination paper at least four weeks before the day of the election, stating the name of the electoral district the nominee is a candidate for, the name of the candidate in full, with his address, and signed by five nominators, with their address appended thereto ; and the Secretary shall, immediately on receipt of the nomination, notify the candidate that he has been so nominated as aforesaid.

3. In the event of only one candidate being nominated within the time prescribed as above, he shall be notified that he is elected a member of the Board of Directors for the ensuing term of two years.

4. In the event of two or more candidates being nominated in any electoral district, the Secretary shall cause to be prepared for such electoral district the form of voting paper in schedule B to this Act, a list of candidates in such electoral district, and also a list of members in such electoral district.

5. At least three weeks before the day of election, the Secretary shall send to the members of the college who are voters in any electoral dictrict in which two or more candidates are nominated, the voting paper and list of candidates for the district, with a memo of the limit of time allowed for a return of the ballot.

6. On receipt of a notice from a candidate that he does not wish to become a member of the Board, his name shall be withdrawn from the list of candidates, provided he so notifies the Secretary before the list of candidates is sent to the voters as provided by sub-section 5 hereof.

7. All voters shall vote by enclosing the voting paper, in the form of schedule B to this Act, in an envelope marked "voting paper," and the said envelope must be delivered to the Secretary at his office in the City of Toronto, on any day before the third Tuesday in July in the year in which an election is held ; and any voting paper received by the Secretary by post before that time shall be decided to be delivered to him for the purpose of the election.

8. The voting paper shall contain the name of the candidate voted for, the number of the electoral district of the voter and candidate, and the addresses of the voter and candidate.

9. Any envelopes received by the Secretary marked "voting paper," shall be preserved by him unopened.

10. The voting paper shall, upon the third Wednesday in July, be opened by the Secretary in the presence of scrutineers to be appointed as hereinafter mentioned, who shall examine and count

the votes. The scrutineers shall examine the voting paper to see that the voter is entitled to vote in the electorial district in which he presumes to vote.

11. The Secretary, upon the completion of the counting of the votes and the scrutiny, shall forthwith declare the result of the election, and shall, as soon as conveniently may be, report the same in writing singed by himself and the scrutineers, to the Board of Directors.

12. The Board of Directors, or in default, the President, shall, at least two weeks previous to the election, appoint two persons who will act as scrutineers at the ensuing election.

13. Voting papers received too late shall be so marked by the Secretary, with the date of his receiving the same, and shall be shown to the scrutineers unopened.

14. The Secretary and scrutineers shall not divulge for whom any member of the college has voted, and they shall subscribe a statutory declaration similar to the one prescribed by the Municipal Act for scrutineers, and no one but the scrutineers and the Secretary shall be present at the count.

15. The number of spoiled voting papers, and voting papers received too late, shall be mentioned in the report to the Board of Directors.

16. The Secretary shall not be a candidate at any election over which he presides.

17. In the case of a tie in the number of votes, the retiring president shall have the casting vote.

18. Voting papers received after the day of election are not to be counted for any candidate, but the Secretary shall keep them in a parcel by themselves, marked "too late."

SCHEDULE "A."

Electoral District No. 1 shall be composed of the following Counties: Addington, Carleton, Dundas, Frontenac, Glengarry, Lanark, Leeds, Lennox, Prescott, Russell, Renfrew, Stormont, Grenville.

Electoral District No. 2 sh allconsist of the following Counties: Algoma, Durham, Hastings, Nipissing, Northumberland, Muskoka, Ontario, Prince Edward, Parry Sound, Peterboro', Victoria, York, except Toronto.

Electoral District No. 3 shall consist of the City of Toronto.

Electoral District No. 4 shall consist of the following Counties: Halton, Dufferin, Lincoln, Peel, Simcoe, Wentworth, Welland.

Electoral District No. 5 shall consist of the following Counties: Brant, Elgin, Halton, Norfolk, Oxford, Waterloo.

Electoral District No. 6 shall consist of the following Counties: Grey, Bruce, Huron, Wellington.

Electoral District No. 7 shall consist of the following Counties: Essex, Kent, Lambton, Middlesex and Perth.

SCHEDULE "B."

ELECTORAL DISTRICT NO. ——

I hereby vote for.....L.D.S., of.....

DATED at.....the....day of.....A.D. 18..

.....L.D.S.,

of.....

Selection.

Mouth Breathing not the Cause of Contracted Jaws and High Vault.

By EUGENE S. TALBOT, M.D., D.D.S., of Chicago.

(Read before the Section of Laryngology and Otology at the Forty-second Annual Meeting of the American Medical Association, at Washington, D.C., May, 1891.)

Mouth breathing was not known among the early races, the present pure races or modern uncivilized races, neither are deformities of the jaws and teeth. You will all admit that mouth breathing is becoming a very common occurrence among our own people, and so are also irregularities of the jaws and teeth. It stands to reason, then, that the causes which will produce the one must necessarily, in many cases, produce the other.

In an otherwise able article upon the subject of "The Influence of Adenoid Hypertrophy at the Vault of the Pharynx upon the Development of the Hard Palate," read before the New York Odontological Society, November 19, 1890, by Dr. D. Bryson Delavan, the author speaks of mouth breathing as a cause. He says: "The mouth breathing habit compels the constant dropping of the lower jaw, which hanging by the cheek from the superior maxilla, causes constant pressure upon the upper jaw. This produces flattening of the lateral alveolar arches and shortening of them, in consequence of which there is not sufficient space for the

eruption of the canines when they are due, and they therefore grow forward."

Other authors mention that sleeping with the mouth open produces tension of the buccinator muscle, this causing the jaws to contract, and they suggest different theories by which this pressure brings about the peculiar form of deformity. There are also very able gentlemen (specialists), teachers in our medical colleges, who are constantly bringing this theory before the students as a cause. This teaching has a tendency to defeat scientific investigation, in the direction of ascertaining the real causes of the true condition found in obstruction of the nasal passages, by assuming to place the real fact, namely, mouth breathing, as the cause. The students take it for granted that this is the cause and the only cause for this condition.

Let us look at a few facts as they have been presented to me, in the constant study of the deformities of the jaws and teeth for the past fourteen years, and you, gentlemen, shall be the judges whether mouth breathing has any thing to do with contracted arches or not. In the first place let us glance at the parts involved. The superior maxillary bones are united at the median line. The outer surfaces have upon their border an alveolar process. Gray speaks of these two structures as one bone, the superior maxillary bone; but from the function, structure and position of the alveolar process in its relation to the maxillary bone proper, they should be described as separate and distinct bones. The maxillary bones proper are made up of dense, compact tissue, and are so arranged as to resist force. The outer surface of the bone is fortified and supported by the malar process, which is situated midway between the maxillary process, and the canine eminence at the first permanent molar. At the canine eminence we have the strong, thick plate of bone extending from the bridge of the nose to the alæ, the mesial portion forming the outer surface of the nasal cavity. We also observe that the nasal septum is situated at the centre of the nares, and is attached to the maxillary bone at and along the place of union of the two halves of the maxillary bone. If a saw was passed through from one canine fossa to the other, we should see that it involved the strong pillar of bone which goes to make up the outer surface of the nasal cavity. This strong pillar of bone is situated just at the point of the permanent location of the cuspids; this, together with the nasal septum, form a strong support to the hard palate. The maxillary bones are for the attachment of muscles and the resistance of force in masticating food. The hard palate does not assume the normal shape until the twelfth year, or after the teeth are all in position. The vault may be high or low, ranging from one inch above the margin of the alveolar process, between the second bicuspid and first permanent molar (which is the highest vault I have seen) down to one-quarter of an inch from

the same point, which is the lowest vault I have observed. In either case they are normal, each variety depending upon the shape of the bones of the head for its peculiar form. The alveolar process, on the other hand, is made up of soft, cancellated structure, and is solely for the purpose of protecting the germs of the teeth before they have erupted, and it also supports the teeth after they are in place in the jaw. From the time the teeth make their first appearance until they are lost, the alveolar process has developed and been absorbed three distinct times. The alveolar process then, being solely for the protection and support of the teeth, it stands to reason that the position and shape of the alveolar process depend upon the location of the teeth. The bone proper, therefore, as we shall see later, is not influenced to any great extent by the movement of the teeth. The buccinator muscle is composed of striated muscular fibres, and is, therefore, under the control of the will. It is penniform in shape. It has its origin and insertion along the body of the jaws, above the alveolar process on the upper jaw, and

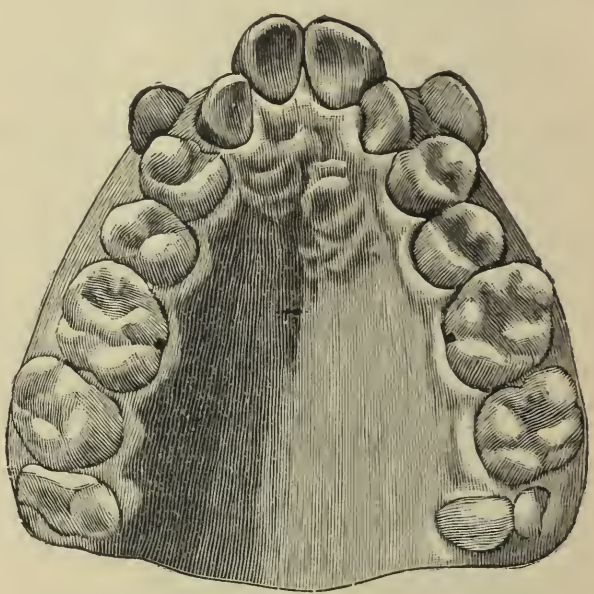

FIGURE I.

below the alveolar process on the lower. It extends from the first bicuspid tooth anteriorly to the wisdom tooth posteriorly. The centre of the muscle would, therefore, be in one direction on a line with the grinding surface of the teeth, and in the other direction at the first permanent molar. Its function is for the purpose of compressing air in the act of blowing, whence its name is derived, and also for the purpose of carrying and holding the food under the teeth during mastication. There are many cases of contracted arches where mouth breathing does not exist. There are also many cases of normal arches where it does exist. As all are

aware, mouth breathing frequently commences very early in life; contracted jaws, on the other hand, never commence to form until the seventh or eighth, and in most cases the tenth year, except in cases of monstrosities, or from traumatic causes. When these conditions exist they are wholly unlike the usual contracted arches, and can be diagnosticated at once, and therefore should not enter into this discussion. Contracted arches are of two kinds—V (Fig. 1), and saddle (Fig. 2)—all the other varieties being modifications and blendings of these two. It is apparent to every one that the cause which produces the one does not produce the other. My observation has been that there are two-thirds more V and saddle-shaped arches among the low vaults than among the high vaults, taking $\frac{18.77}{32}$ of an inch as an average, but where one of these deformities exists with a high vault it is always more marked, for the reason that in the high vault the alveolar process is high and thin,

FIGURE 2.

and the teeth are more easily carried in one direction or the other with very little resistance. In the V-shaped arch, commencing at the first permanent molar, there is a gradual narrowing of the teeth and alveolar process toward the median line, where the incisors may reach a point or may stand in their normal position to each other. Invariably there is a protrusion of the teeth and alveolar process, and not the jaw. On the other hand, in the saddle-shaped arch, the bicuspids are carried inward and the deformity is invariably situated between the first permanent molar and the cuspid. Unlike the V-shaped variety the anterior teeth and alveolar process never protrude in this class of deformities. The contracted hard palate is always associated with the V-shaped variety, and in most cases extends backward to the second bicuspid. It is never seen

with the saddle-shaped variety. The high vault is never seen in the first set of teeth, nor does it develop until the second set are all in place, which is at the twelfth year. The vault commences to slope slightly from the neck of the incisor until it reaches a line drawn across the roof of the mouth from the first right bicuspid to the first left bicuspid, and then it gradually or abruptly slopes upward, until a line is reached which is drawn across the jaw from the anterior surface of the opposite permanent molar. From this point posteriorly to the soft palate the dome is usually on a level; occasionally we see a slight depression and occasionally a slight elevation, but these are so slight as to escape notice unless one were looking for the peculiarity. In mouth breathing the lower jaw usually drops only sufficient for the passage of the same volume of air as would pass through the nasal cavities, which is only about one-half inch. Old people often sleep with the mouth open, and frequently to the fullest extent, but these deformities of the jaws and teeth never occur after the eruption of the teeth, say at the twelfth or fifteenth year. When one opens his mouth he is conscious of a tension of the orbicularis oris, but not of a pressure of the buccinator, no matter how wide it may be opened. This muscle, being under the control of the will, is always passive except in the act of blowing or eating, therefore contraction during sleep is wholly out of the question. As the buccinator muscle extends anteriorly to the first bicuspid only, it can produce no effect upon the V-shaped variety of deformity, in which is also found the contracted vault. Therefore, the only deformity that is likely to be

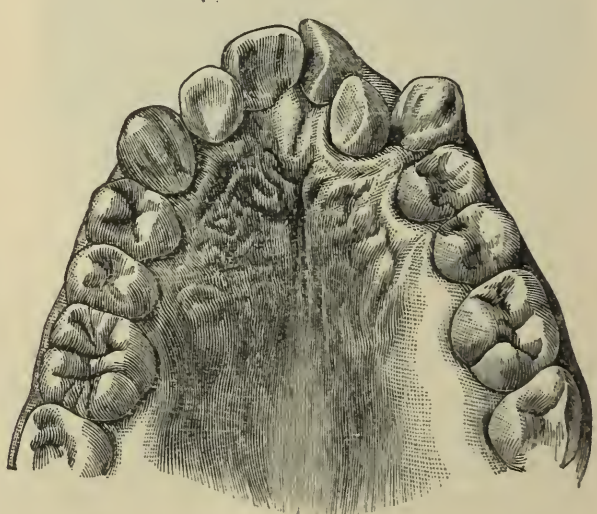

FIGURE 3.

produced is the saddle-shaped variety, which is out of the question for reasons which I shall explain later. The orbicularis oris muscle cannot produce the contraction, because when the mouth is open

the pressure exerted on the six anterior teeth is backward. Thus the teeth are carried in the opposite direction from that which must be taken to produce this deformity. Again, the pressure is just as great upon the incisors as upon the cuspids, thus holding them in place. More force is exerted by the orbicularis oris upon the six anterior teeth when the mouth is open, than can be exerted (if it were possible) by the buccinator muscle, which would tend to hold the anterior teeth in place. For years it has been demonstrated by dentists in regulating teeth, that it is very rare for the apices of the roots of teeth to move when pressure is brought to bear upon the crowns of teeth, for the purpose of regulating them. This being the case, teeth having long roots like the cuspids, are less liable to move than teeth with short roots like the lateral incisors and bicuspids. Since in the moving of a tooth the greatest

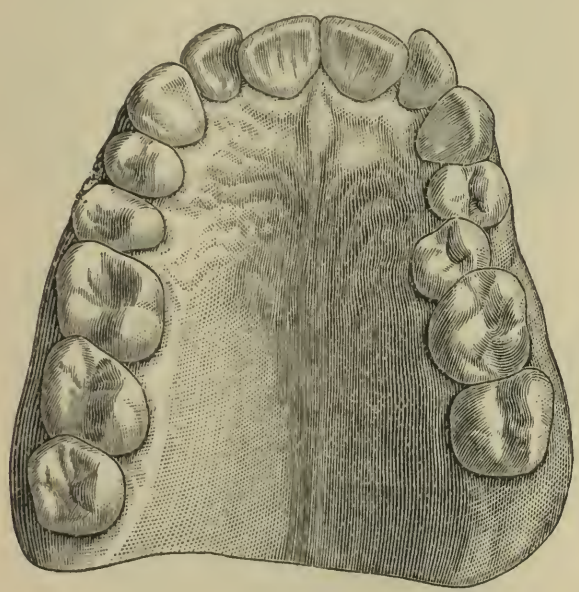

FIGURE 4.

change which takes place is at the neck, it stands to reason that the greatest absorption and deposition of bone takes place at that point. The roots of the cuspid teeth are larger and longer than any other teeth in the jaw; unlike other teeth the germs are situated considerably higher and farther toward the outside of the alveolar process, so that when they come close into position, they diverge from the apices to the crowns, while all the other teeth stand nearly, or quite, perpendicular, thus showing that the roots of these teeth do not influence the hard palate. I have shown that the first permanent molar and the teeth posterior to them are never involved. I have also shown that the centre of the muscle in both directions is located at this tooth. How is it possible, since all the teeth are covered by the muscle upon one side, that half are carried

inward and the other half remain normal? Again, if mouth breathing is the cause of the contraction, both sides must contract alike, and the deformity must be uniform upon both sides, which is never the case. Muscles do not contract to a degree sufficient to produce the pressure necessary to produce a deformity. It is inconsistent with our knowledge of the influence exerted by muscular structure in other parts of the body. Some of the muscles of the chest exert much more pressure in respiration, than it is possible for the buccinator to do during sleep, yet no one would expect to find the ribs modified by this process. The pressure of the tissue upon the crown of the teeth, is not sufficient to affect the alveolar process through the roots of the teeth, but even if it could modify those spongy structures, its force would stop there, and would not extend to the osseous vault, bending it out of shape. In most of these cases, the superior maxilla and the diameter of the alveolar process and teeth is very much smaller than the inferior maxilla, alveolar process and teeth; in such cases the muscles and cheek could not reach the teeth and alveolar process upon the upper jaw. This is always the case in the worst forms of irregularities. The changes which take place in bone, are not a bending in at one place and forcing out at a weaker point to compensate for the space lost, but are an absorption and deposition of bone at the point of pressure. And even if such were the case, the strong pillar of bone situated at the very point of contraction of the alveolar process, together with the nasal septum, both form a strong bulwark for the resistance to the pressure which is situated quite a distance from the top of the vault. Again, it would be as impossible to produce pressure sufficient to break the dental arch, as it would be for the weight of a building to break the arch of a door or window. The tongue exerts a much greater force in the act of swallowing, and would prevent the inward movement of the teeth if so slight a pressure as the muscles of the cheeks were the cause of the deformity. For the sake of argument let us suppose it were possible for the buccinator muscle to produce this contraction; we should then expect to find the modification of the osseous structures uniform. This would shut out semi-V (Fig. 3), and semi-saddle-shape arches (Fig. 4) entirely, and a majority of other irregularities of the teeth in which there is bilateral asymmetry, for however much one would incline to the prevalent theory, no one would dare to assert that the muscle will act on one side of the mouth, while that on the opposite side remains passive. Partial V (Fig. 5), and partial saddle-shaped arches (Fig. 6), make it still less plausible. In these we meet with sudden bends inward where only one or two teeth may be involved, which could only be produced by a centralization of force on one given point or fibre of muscle, a peculiarity of function that has never yet been ascribed to muscles. The muscle

being penniform in shape, it would be impossible for one or two fibres of the muscle to exert its influence upon a bicuspid. It would naturally lap over two or more teeth. Lastly, if the buccinator acts as all muscles uniformly throughout its extent of con-

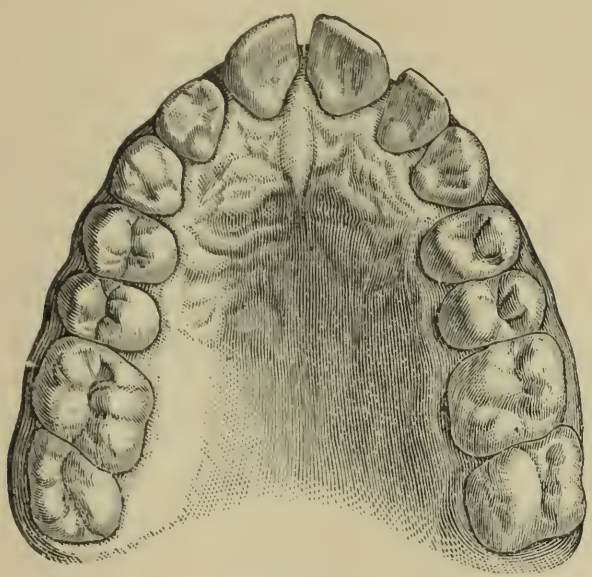

FIGURE 5.

traction, below its median line it is just as efficient in producing a narrow contracted arch as in its upper portion, and we should expect to find the lower maxilla contracted whenever the upper one is, which is contrary to facts. A V-shaped arch can never

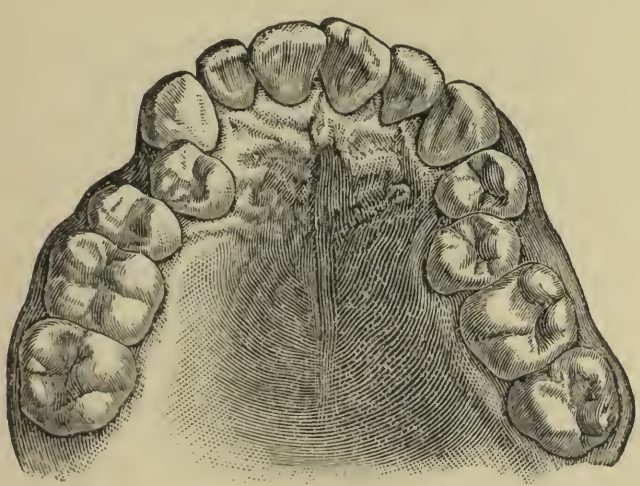

FIGURE 6.

occur upon the lower jaw if the teeth articulate normally, because these teeth strike inside of the upper and are usually prevented from moving forward. A saddle, partial saddle and semi-saddle arch may occur on the lower jaw, but these deformities are not

often seen. When they do occur they are the result of improper occlusion with the teeth of the upper jaw. We always observe in semi-V and partial V-shaped arches that the alveolar process is contracted upon the side of the deformity. If one side is contracted more than the other, we shall observe that the alveolar process is contracted in proportion to the amount of the deformity; the vault on that side is not carried up beyond the other side, which is normal. In the saddle, semi-saddle and partial saddle-shaped arches, we find the alveolar process built up about the teeth in the precise uniformity to the nature of the shape of the arch. If we take 3,000 models of the upper jaw, and arrange them in groups according to the forms here represented, and then examine very closely the arrangement of the teeth in each group, we will be unable to find any two alike in either group; thus showing that an external force acting upon the jaws from the outside could not possibly be the cause. If it were possible all the models of one variety would resemble some exact form. Dr. Delavan says that "The prominence of the anterior region of the alveolar arch is still further increased by the projection forward of the superior maxilla at this point, and of the upper teeth." The doctor is quite mistaken as regards the "projection forward of the superior maxilla." The maxillary bone never protrudes in front in this class of cases, it is only the alveolar process which is carried forward by the projecting teeth. The only issues involved in these deformities are the teeth on the one hand, and the alveolar process on the other.

In most cases the cause of these deformities is arrest of development of the maxillary bone. This condition is due not only to hereditary influence, but also to direct causes such as the eruptive fevers and all lesions which are constitutional and which produce long sickness. When arrest of development of the superior maxilla takes place we always notice a depression at the alæ nasi, and a sunken condition of the bones of the face on the line drawn from ear to ear, and occasionally extends up to the floor of the orbits. If we will examine closely the faces of an audience in Chicago, we will observe that from forty to fifty per cent. of all these people have this arrest of development of the superior maxilla. Such being the case, arrest of development must necessarily extend to the bones of the nose, thus producing mouth breathing. Ziem has frequently shown that if one nostril of a rabbit be permanently closed, and the animal killed after it has attained its full growth, the nasal cavity of the affected side will be found to be undeveloped, and asymmetry of the face will take place. Arrest of development of the bones of the nose and hypertrophy of the bones and mucous membrane will ensue as a result. A good illustration of hypertrophy of mucous membrane from want of use, is observed by dentists when the gums puff up, thicken and extend one-half to three-fourths of the length of the teeth from want of brushing. It

would be useless for any one to say that mouth breathing is the cause of one case of V-shaped arch in every twenty, and that some other cause produced the rest of the deformities. We must have a law which will work in all varieties of contracted arches as well as the V-shaped, which variety constitutes a very small percentage of the whole. I have watched the development of these different varieties for the past fourteen years, have taken impressions of the mouths of some of the most marked cases every three months and compared them. I have also produced most of these forms in the movement of the teeth for the purpose of correcting deformities.

I regret that it will be impossible at this time to show how these different forms of irregularities of the teeth are produced, but they are nicely described and illustrated in my work upon "Irregularities of the Jaws and Teeth, and Their Treatment." I will, however, say that they are caused by the long diameter of the dental arch being too great for the long diameter of the superior maxilla. Having then discovered the cause (that of arrest of development of the maxillary bones) of contracted jaws and irregularities of the teeth, have we not a good foundation to work upon to discover the cause of deflected septum and mouth breathing?—*The Dental Register.*

Correspondence.

Plain Speech to Quacks.

SIR,—We have some men among us who are afraid of their own shadows, and who call a spade anything but a spade. There is no use of trusting, much less trying to reform men who are quacks, or who act like quacks. Any advantage they can get by being noticed by us they will use against us, and I know you have the support of the respectable majority of our dentists in the plain way you show these humbugs to be conscious liars. It is the most fitting word for them. Let it stick to them.

Yours etc.,

Winnipeg. L. D. S.

Obituary.

The Hon. Dr. P. Baillargeon, of Quebec, one of the Dominion Senators, the oldest practising dentist in the province, died last month. Dr. Baillargeon was one of the members of the first board of Examiners of the "Dental Association of Quebec," elected in

1869, and succeeded the late Dr. A. Bernard as president. On account of his uncertain health, he never took a very active part in the work of the association, excepting as an examiner, but he was one of those fine old-fashioned gentlemen whom it was an education to know, and the members who were associated with him for many years will ever bear kindly remembrance of his geniality.

Editorial.

That "Report."

AFTER sending the report of the Barrie meeting to the Secretary of the Association, and receiving it back "revised," we give it up in despair. It is impossible to make head or tail out of the jumbled mass, and it would be simply ludicrous to print it as it stands as a report of the proceedings.

WE have to thank Dr. J. Taft and the publishers of the *Dental Register* for the use of the cuts accompanying Dr. Talbot's article in this issue; also to Dr. Talbot for his valuable contribution.

DR. E. A. STEBBINS, of Shelburne Falls, Mass., wishes us to correct an error in one line of our "Remarks" in the last issue, referring to the use of Argenti Nitras. *He does not dissolve the crystals before applying them.* There is moisture enough in the cavity, or in the tooth, to dissolve them. He wants the full strength of the salts. Any of our readers wishing to refer to the article in full will find it in the October number of the *International Dental Journal.*

Proposed Amendments to the Dental Act.

According to a circular issued by the Eastern Ontario Dental Association, there will be submitted to the Local Legislature, now in session, a bill to amend the Dental Act. A draft of the proposed amendments has been printed, and a copy mailed to each

licentiate in the Province. It is proposed to divide the Province of Ontario into seven electoral districts, each of which will be represented upon the Board of Directors by a member residing within its limits—the Board to consist of seven members, as at present. The elections will be conducted by mail, each member of the Royal College of Dental Surgeons being furnished with a voting paper, which he will return sealed to the Secretary, who will hand it over, unopened, to scrutineers appointed by the Board. Any five members of the College may nominate a candidate by sending a notice to the Secretary at least four weeks before the day of the election, giving the name and address of the candidate, and signed by themselves. Provisions are also made for filling vacancies on the Board, notifying candidates, maintaining the secrecy of the ballot, etc., which need not be detailed here. One clause, however, is noteworthy in that it provides that "no teacher, professor or lecturer, in any college or school of dentistry in the Province of Ontario, shall be a member of the said Board of Directors."

That a change of some sort was necessary in the manner of conducting elections was pointed out by this journal at the time of the last election, held in July, 1890. Among those who were present on that occasion, there were only two or three recent graduates from outside of the City of Toronto. The reason for this was obvious. The loss of time and expense involved in a trip to Toronto could be ill-afforded by some and by others, no doubt, seemed out of proportion to the personal benefit to be derived. Now, although we have not a word to say against the personnel of the present Board, we do say that such a state of affairs is not likely to develop an interest in the School of Dentistry in those who live in what may be called the outlying districts of the Province. Every dentist should know that the School of Dentistry is owned, maintained and controlled by the licentiates of the Province, and that he can express his opinion by his vote. He should feel, also, that in exercising his franchise he is making himself responsible to a certain extent for the actions of the Board. If, thus knowing his responsibility, he is enabled to register his vote, practically without trouble or expense, it appears to us that he can leave but small grounds for complaint.

There is one part of the proposed amendments, however, which we consider unjust, and that is the clause requiring five signatures

to a nomination paper. This is almost certain to confine the nominating to cities, where signatures can easily be obtained. One elector can nominate a candidate for the House of Commons or the mayoralty of a city, and why any licentiate should be deprived of the right to nominate a candidate for the Board is more than we can understand. It may be said that in some districts, in the City of Toronto, for instance, the number of persons nominated might be large, but even if this be true is it not better that the electors should have the choice of a dozen candidates rather than two? If we adopt a strictly democratic form of government for our College, let us not give anyone the opportunity to say that we have legislated in favor of the larger cities and towns as opposed to the smaller.

The clause providing that no professor on the staff of a dental college can be a member of the Board will, we fear, be interpreted by some as aimed at one who has been a long and faithful member of the same, and to whose individual efforts in the cause of dental education and dental legislation the present high standing of the profession in this Province is largely due. While this makes the question a rather delicate one to handle at the present time, we believe the principle upon which it is based to be correct, and have no doubt that the clause was inserted to obviate difficulties which otherwise might arise at some future time. In prescribing the curriculum of study and exercising a general control over the teachings of the College and the examination of candidates, the directors have an important duty to perform, and in the opinion of the Eastern Ontario Dental Association this duty can be best performed by a Board which is entirely independent of the teaching staff of the school, which, looked upon as a principle, is undoubtedly correct. To show what might be done under the present system, let us suppose that at some future time the Board should contain four members living in or near the City of Toronto. As the Board is now constituted, those four members being a majority, could appoint themselves professors of the school, pocket all the fees, prescribe their own curriculum of study, and arrange an examination in accordance with their own teaching. It is true, nothing so high-handed as this would be likely to occur, but it serves to illustrate the relations between the Board and the Faculty, and the desirability of their being kept as distinct as possible.

Since the above was written we have received from the Secretary of the Ontario Dental Association a "Draft of Proposed Amendments to the Dental Act," which amendments, according to a circular which accompanied it, were unanimously agreed upon at the meeting of the Society at Barrie, last July. We are not in a position to say that any mistakes have been made in preparing this draft, although it seems to us ridiculous that all expenses connected with the carrying on of the School of Dentistry should be paid out of examination fees, as stated in section four. We were also surprised to read in section five, that the Board is to be *asked* to extend the course of lectures for students from two to three years, etc. As the Board has already been granted the power to make the changes mentioned, we fear that the Legislature, being accustomed to command rather than request, will not ask the Board to do anything of the kind, so that this section appears to us quite out of place among the proposed amendmeuts to the Dental Act. Section three refers to a system of registration which has no existence, and for which no provision is made. As it stands, therefore, it is meaningless, unless the registration referred to means the granting of a license to practise dentistry, in which case the distinction between those who have and those who have not registered is quite unnecessary, as those who have not registered have no rights to forfeit. The resolutions passed by the Ontario Dental Society were intended to provide for changes in the law which would elevate the profession and improve the present system of electing the directors, and upon these questions it was thought desirable to obtain the opinion of the licentiates throughout the Province. It is to be regretted, therefore, that the amendments have been submitted to the profession in their present form, as on account of their ambiguity but little value can be attached to any expression of opinion upon their merits. For the welfare and credit of the profession we sincerely hope that when the matter comes before the Legislature it will be in an entirely different form.

A. H. H.

Personal.

DR. G. L. CURTIS, of Syracuse, has established himself at 130 West 34th Street, New York, as a specialist in the surgical treatment of diseases and deformities of the mouth (jaws), face and neck. The Doctor has had the best opportunities at home and abroad for the practice and study of this specialty, and while most

of his friends and all of his patients will regret his abandonment of dentistry proper, it is desirable that the class of Dental Oral Surgeons should increase and reflect honor to our own profession.

DR. W. D. MILLER, of Berlin, who has kindly promised to contribute to this journal, writes us, on the 3rd February, that after a turn of nearly six weeks of influenza, followed by nervous prostration, he was utterly incapable of any kind of work, and was just off for the Riviera for a few weeks. His multitude of friends and admirers in the profession will pray for his speedy recovery. It is announced that the Doctor has accepted an invitation to occupy the Chair of Histology in the University of Pennsylvania. Berlin's loss will be our gain.

Reviews.

The Physician's Visiting List for 1892. P. Blackiston, Philadelphia.

This valuable little work is in its forty-first year. It hardly needs any introduction. But we regret that it came too late to be noticed in our last issue.

Transactions of the American Dental Association, 1891. S. S. White Co.

As usual, very valuable and well printed.

THE Post-Graduate Dental Association of the United States will hold its annual meeting at the Welland Hotel, Chicago, April 29th and 30th next.

Dr. W. C. Barrett, of Buffalo, N. Y., Drs. T. W. Brophy, Louis Ottofy, and others, of Chicago, will present essays and addresses. An interesting programme has been prepared, and a good attendance is expected. All members of the profession are invited.

Graduates of recognized Dental Colleges may become members by paying membership fee ($1.00), and dues for one year in advance ($1.00).

L. S. TENNEY, *Secretary*,
96 State Street, Chicago.

R. B. FULLER, *President*.

DOMINION

DENTAL JOURNAL.

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Original Communications.

"Yesterday."

By J. A. BAZIN, L.D.S., Montreal.

Entering the profession in 1852, at Boston, ignorant of its scope or condition, my environment very circumscribed, I was as a man in a thick woods, with no guide. Having a mechanical training for many years, I soon became of value to my preceptor "at the bench," doing things in a mechanical way, but not badly, for the rule of the office was to do "honest work." My horizon bounded by the walls of the office, with occasional visits to the dental depot of Jones, White & McCurdy, who had opened a branch two years before, in a very small way, the first of the kind in that part of the country.

These visits to the dental depot were like an exchange or board of trade. There we met, talked with or listened to older and wiser than we, consulted as to special cases, often saw work from other offices, and were stimulated to excel. They were as seeds to the society and convention movements that have since become so common.

Bear in mind that railroads had not yet passed their 'teens (in 1839 the first road leading to New York had been opened, and that year, and also in 1841, the beginning of the express business in a crude way, the first conveyance to collect material and parcels being a wheel-barrow and hand-cart—postal accommodation infre-

quent and expensive), and you will perhaps understand the insular character of the times.

In each large city, and there were but five or six at that time, a luminous point was beginning to send out rays. Three dental colleges had a feeble existence, with no instructor in two of them in operative or mechanical branches. Later, one was appointed in 1854, another in 1857.

Two quarterlies were struggling for life, the *Dental News Letter*, begun in 1848 (now the *Cosmos*), was making its way as the agent and mouth-piece of that organized dental supply house, Jones, White & McCurdy (now the S. S. White Manufacturing Company), then only six years old, and their New York branch but four years going. Ether and chloroform were being talked about, the former being the first used, only in 1847, and I find that it was upon an old friend of mine that the first recorded experiment was made. In 1848 or '49 I had a permanent lower molar extracted while under the ethereal influence. The "amalgam war" had died out, killing one Society, but doing some good in improving the "compound" and manner of use. To give you an idea of how that matter was received in 1845, I refer you to Chapin A. Harris, pp. 259, 2nd edition: About 1850, and prior to, most dentists had their own furnace for making 'incorruptible' teeth, resembling a 'split bean' more than anything else. S. Stockton, of New Jersey, had begun to supply in a small way teeth and gold stock. John Allen and Hunter were in arms, giving and taking hard knocks in defence of priority in continuous gum or platina work.

The *News Letter*, of that time, being their mouth-piece, and doubtless doing more to spread intelligence of this forward step in porcelain combination than any peaceable way could, sides were taken, and from the heat of the contest much light was rapidly given off.

Gum teeth were beginning to appear upon the market, in unfading color, "rose pink" and "purple of cassius" giving way to the preparations of gold now in use. Well do I remember the fear and trembling with which we heated up and soldered a piece, not knowing whether the gum would disappear and leave a smoky brown in its place.

It was marvellous the strides made in those six or eight years, prior to 1852, in the growth of artificial teeth manufacture—from

those "split beans" to the Allen continuous gum, and the single gum tooth of Jones, White & McCurdy, from the straight pin or grooved slot, which would pull out or break, to the foot-shaped pin with its fine adjustment of size to thickness of tooth. It was in 1862 that the headed-pin came into use; gum sections in 1856.

Without question, these advances were more largely due to the S. S. White Company than to any other. He it was, who, forecasting the great needs of the dentist, began to supply them. (Each individual dentist either made his own instruments, or got them from some other near by.) His manufactory became the centre to which all inventive effort converged. Experiment and invention went hand-in-hand at a goodly pace.

In the matter of chairs, for instance, much improvement took place at that period,

In our own office a rocker on a platform was in daily use, and I remember with what open-mouth wonder we examined the new "White" chair, with its tip back and raising seat. Abbey's soft foil was the standard, and very durable work was done with it. Common cotton wads to wipe out the cavities, and the same to prevent flooding of the lower teeth.

In some offices napkins were in use, and I see, by current literature, that bibulous paper was recommended in 1850.

It was about this time that Watts' sponge gold was put before the profession, but it has been much improved since that day, as have the instruments for its use. I had one tooth filled in 1854 with it, which I lost only a few months ago.

Foil, either in ribbon or block form was the common method of filling, with wedge-shaped pluggers, the idea of those using the ribbon being to calculate the quantity needed, and have it in one piece. Among the fathers of that day a change was going on, in transition from the key to the forcep, in extracting. (The forcep being an invention of 1839), and my skill in the use of the elevator, I think, is due largely to that circumstance.

In this decade, '52 to '62, I think adhesive foil, oxychlorides, and carbolic acid made their impress on general practice.

It was my fortune in '54 to be engaged by Dr. J. A. Cummings, and to see the "Yankee Baker," in which his experiments in vulcanite, which resulted in his obtaining those patents that became so obnoxious to the dentists of the States, were made. This en-

gagement terminated because I protested against the dishonest method of filling the spaces between the teeth and plate in gold work with melted sulphur.

In '55 I came to Montreal, entering the office of Dr. Bernard, he wishing to give his patients the improvements of the time in carving and continuous gum work.

That summer gutta percha was brought to notice as a base for artificial teeth, but it had a very short life, for very soon vulcanite came to the front.

In Dr. Bernard's I found an antique lathe, whose bulky wooden wheel, which had to be speeded with a heavy foot, propelled, for a moment, the crude stones of that time, whose cutting power was helped by putting wet sand upon them. Fortunately the Doctor had brought a "Chevalier" which had been in the market about six months, and none better have I seen. With the oxychlorides, or soon after, the rubber dam (1864) and automatic pluggers became known, and contour filling was the craze. On my visit to Boston, in '66, to the great convention, Dr. Salmon used his invention at the clinics, and Father Atkinson expounded, in eloquent and glowing terms, this "new departure," the young disciples flocking to him to tell of and to show him the huge lumps of yellow restorations to the "original type form."

But things settled in due time, and the residuum was all in the line of better results.

Passing on to the '70's, came the Stone flexible shaft, 1873, which in two years was applied to the dental engine by "Morrison," and in these, engine mallet, adhesive gold, rubber dam and oxides of zinc, all embraced conditions and appliances that have enabled operations to be performed surpassing the imagination of the most sanguine. Before then, excavators, smooth pluggers, cotton wads, the drill stock and slack bow, constituted the outfit of the most advanced. The materials for filling were soft gold, tin, mastic, and amalgam, the latter being held in disrepute by many.

With the introduction of the preparation of zinc, it may be said that the advanced treatment of exposed nerves may date successful results. Prior to that time, metal caps with or without excision of a portion of the pulp; this excision being advocated by Dr. W. W. Allport, now of Chicago, or direct filling was the practice in vogue, and if abscess threatened, the lancet and leech, Dover's powder, turnkey or forceps closed the act.

Earlier than my day, Dr. Hullihen had introduced a method of treatment of *exposed* pulps, which seems to have had a very extensive following, and to judge by the reports of Dr. Cone and others to be found in the *News Letter* of '52-'53, etc., has much to be said in its favor, the percentage of successful cases being very high. His plan was to drill into the *side* of the tooth to the *living* pulp before filling, and leaving this opening free, it would, in a short time fill up with secondary dentine, life remaining in the pulp.

All approximal cavities were gotten access to by the use of the file; elastic rubber, or the expansive power of moist cotton not being known generally. Yet, with these simpler implements, and limited appliances, much good work was performed, that at this day would delight us to see. Here in Montreal was Dr. W. H. Elliot, who I find referred to by Harris in '45 as being in Plattsburg, N. Y., whose results with Abbey's foil would astonish you. Harwood and the Tuckers', of Boston, and Wetherbee, were a quartette that were representative of those to be found in all the cities, striving to give the best possible.

When I first came to Montreal there were six dentists having offices at that time in Montreal, only three of whom had furnaces for baking teeth—Elliot, Dickinson and Webster. But in a few days we had one set up, and the most modern equipment in the city. Plain teeth on gold or silver plate was the most common work done. Gum teeth with bands were not made, I think, by any one in the city. I well remember Dr. Elliot saying to me, late in that year, that he had seen the first set I made after my arrival, and was agreeably surprised at the fine work, not knowing that such could be. In May or June Dr. Trestler returned from New York, and opened office in Notre Dame Street, near the square, bringing with him a very excellent workman in gold, etc Within another year Dr. Young, father of the present Dr. Young, opened two doors away, east, from Dr. Trestler. My intercourse from that time to this with Dr. Trestler has been of the most cordial kind ; his geniality is ever fresh. It would take a night and a day to detail the many remembrances that crowd upon me. Brewster was student with C. M. Dickinson.

In that same year Dr. Webster suffered a great and terrible loss in the death of two sons, who were perfecting themselves in dentistry in New York and were home for the holidays ; they, with

three other excellent young men of the city, being drowned by the capsizing of a yacht in Lake Champlain.

Dr. Bowker had his office in little St. James Street, near the Gas office, a narrow street, only half its present width and mostly occupied by dwellings. Elliot was where the Citizens Insurance Co. is, but sold out to VanBuskirk, in 1856, and Dickinson was nearly opposite Dollard Lane. There were but four stores in St. James Street. Many of the merchants lived over their stores in St. Paul Street and that vicinity.

Probably not thirty houses could be found west of Phillip's Square, either on Dorchester or Sherbrooke, and only three on St. Catherine.

Dr. Jourdain had his office on the corner of Coté and Craig, now a beer garden, and Bernard was in that building on Craig Street now occupied by Tyler, the candy man. Our furnace and laboratory were in the second story front, the doctor's best bed-room, he retiring to the attic to give place to progressive dentistry. I remained with him for eight months, and then began in a very humble way for myself in Fortification Lane, in rear of Nordheimer's Hall, but the next year moving to the premises now occupied by " Notman." Not long after this Dr. Webb opened an office in St. Lawrence St. At his death W. B. McGowan succeeded to his practice, coming from St. Albans, Vt., in 1867, I think.

Dr. C. Brewster became partner with his preceptor, Dickinson, in 1857, who lived only about a year, leaving W. G. Beers as student in the office.

Besides Webb, Dr. H. D. Ross, of Quebec, graduated from VanBuskirk's hands, and soon our French friends caught on and students became numerous.

All this time improvements were going on in small as well as great things. Vulcanite as a base began to invade continuous gum, as well as gold work (in 1859 or 1860) and right here I would affirm that it has developed more careless, slovenly work and mal-adjustment, as well as being of immense benefit to the poor, than any other change in method or material that I know of. One of the little things that I consider great in results is the spoon excavator, be it Cooledge or Wetherbee to whom honor be given. And Jacks' " enamel chisels " is another exhibit of a thoughtful, scientific application of means and ends.

I would recommend to all, the reading of all advertisements in our journals concerning new instruments, for often it is that a whole treatise is hidden therein. I got clearer views on enamel cutting and preservation of the edge of chisels from Dr. Jacks' "adv." than from all other sources at my command.

In Harris' second edition no reference is made to chisels; it would seem as if they were an invention of a much later time. Thus, I might go on till you would weary of the "chestnuts," as many of you are cognizant of these later days.

One or two thoughts in closing. I have not said much about two great influences that have made, and still make, a powerful impression on the profession.

1st. Journalism; in those early days one, or at the most two journals were in existence, now a score or more, each one having more pages of matter in one number than in a whole volume of those earlier times. I show you a number of the *News Letter* of the first volume, with its ten pages of reading matter and two of advs., of this latter, the greater part jeweller's material. Compare it with the *Cosmos* of to-day, its successor, with thirty-five or forty pages of excellent matter, fully illustrated, and quite as many of advs. with cuts, so fine, that they compel our admiration and draw forth our careful savings, that we may call them ours. Then the quality and character of papers found in the journals show a still larger expanding of our specialty. And if such is the stride in these forty years, what will it be when you young men shall be looking back to your yesterday? How broad the foundations ought to be, to bear such a glorious structure as seems to be in the womb of the future.

2nd. As an auxiliary to journalism, is society organizations. I am of the opinion that near 150 exist at this time in the United States, most of them meeting semi-annally. Consider the influence such factors must be in shaping results, forming character, enlarging the mind, mellowing the heart, and liberalizing the man. Make all the use of these you possibly can. We cannot afford to leave them alone. Our interests are identified with their influence. He that reads not the literature of his profession, and keeps from friendly intercourse with his fellow, "is fit for stratagems and spoils," and will bear watching when called to minister to a tooth diseased.

It seems rather singular that I should have come in contact in

my earlier years with Dr. Morton, of Ether fame, Dr. Colton, whose exhibition of "laughing gas" led Dr. Wells, of Hartford, Conn., to the experiments that culminated in ether and chloroform, and J. A. Cummings, who, through his agent, Josiah Bacon, was the best hated man in the United States.

In those earlier days great tact was required in receiving patients. There seemed to be a sort of disgrace associated with being obliged to visit a dentist. We had to avoid publicity in the office as well as outside. All sorts of stratagems had to be used to prevent two patients seeing each other.

Dr. Webster had some peculiarities of character, manifested in part by a desire to have almost a machine shop in his laboratory. He had been a gun maker, I believe, and I remember a fine machine lathe, and a drop-press which he used in swedging plates, letting fall about sixty pounds from one foot to eight, as he desired.

An incident occurred this morning which seems a fitting appendix to this paper of reminiscence. An elderly lady called to have two or three teeth removed, one, as she stated, being a root which several had tried to remove. I show you it as a perfect canine, superior, which had lain in the jaw for over sixty years undeveloped ; and what to me is more interesting, is that this lady's experience with dentists goes much further back than my paper. She had Dr. Paine, predecessor of Elliot, and Scripture operate on her teeth, and is a link between a remoter "yesterday" and to-day.

How to Procure an Impression of the Mouth when Patient is Inclined to Nausea and Vomiting.

By C. V. Snelgrove, L.D.S., Toronto.

Get your druggist to make you some lozenges with one-quarter grain of cocaine in each lozenge. Before taking impression allow patient to dissolve one of these lozenges in mouth and swallow the spittle. If one is not sufficient, give patient another lozenge, allowing time enough for the lozenge to dissolve slowly, and you will find you can take an impression with plaster of paris without any inconvenience to patient or yourself.

Local anesthetic for extraction of teeth or pulps :

℞ Cocaine Hydrochlorate .....grs. v.
Acid carbolic xtals .....grs. iv.
Gum Camphor opt .....grs. vi.
Glycerine pure .....grs. xv.
95% spts vini Rect. Q.S. ad .....ʒ ii.
℥

Hypodermic syringe. Inject one or two drops deeply into the gums on inner and outer side of the tooth, and apply over the gums around the tooth, also in cavity of tooth, a piece of absorbent lint or cotton wet in the solution. Wait four or five minutes (by the watch) and the gums can be freely incised and tooth extracted with but little pain.

Sinus from an Abscessed Tooth.

By A. H. Beers, M.D., D.D.S.

On March 5th, 1892, an old man aged eighty years came to consult me about a "running sore" on the left side of his face. There was a mass of indurated tissue about the angle of the jaw, extending back to the mastoid process. There were two recently healed openings near the centre of this mass, with threatening renewal of supuration.

History of case :—

Had never had toothache in his life. Last September his face began to swell. His wife, who is a know-it-all creature, applied several linseed poultices, and proudly succeeded in bringing it to a "head" on his face. The old man had suffered great agony from neuralgic pains since last fall. He compared them to the repeated jabbing of a penknife all over the left side of his face and scalp. He had some trouble from trismus a short time ago, but it has entirely disappeared. His physician had lanced his face once. He then went to Montreal and consulted a homœpathic quack, who assured him it was cancer, gave him some pills, and told him he would soon be all right. I examined his face thoroughly, and came to the conclusion that it was a sinus from an abscessed tooth.

I examined his teeth, and found that he had a remarkably good set of teeth for his age. I found the putrid remains of the left upper dens-sapientia with a cheesy-looking exudate from around its neck. The lower dens-sapientia had a putrescent pulp, and was slightly tender on pressure. I removed both the upper and lower teeth and gave him a few simple directions. The upper I extracted as the cause of the sinus, and the lower one for several reasons. Its uselessness, the presence of putrescent pulp, incipient pericementitis, and the probable occurrence of alveolar abscess. Living as he did twenty miles from any doctor, he was not likely to consult any one until it had pointed and burst on his face. I endeavored to convince his wife of her error in poulticing the face for alveolar abscess, and, I hope, with success.

I have since heard (two weeks later) that the old man has had great relief from the neuralgic pains.

Dental Dots.

By D. V. Beacock, Brockville, Ont.

It is useless to saturate cavities with germicides, that are already filled with moisture ; by so doing the germicide may be so weakened as to be entirely valueless. In all cases dry thoroughly before applying.

It has been said that the world gets value received for all of its acts and doings, and that the law of compensation is so accurately adjusted that the balance sheet tallies to the millionth part of a fraction.

I like salisylic acid, for besides being an antiseptic, it has a direct action on the epitheliel cells of the mucous membrane, always destroying them and leaving sound and healthy tissue beneath.

A man's personal defects will commonly have with others just that importance which they have to himself. If he makes light of them so will other men.

To grind down a piece of piano wire for a broach or root filler, take two round-edged corundum wheels, screw them on to your lathe or engine mandrel, hold the wire in the groove between them while

running them from you, keep turning the wire constantly to have it even.

The average life of the physician is fifty-three years, that of the dentist is only forty-two.

In 1856 there were only two vulcanizers in America, one in New Haven, the other in New York city.

Dr. Kingsley says that the ideal assistant in a dental office is a woman of refinement and education, of pleasing manners and address, interested in her vocation, and devoted to the welfare of all she is called upon to serve.

Too many dentists practise dentistry as a mere trade, completely degrading it to the very lowest, by boasting how many teeth they have pulled and how many boiled rubber plates they have made, and the number of holes they have plastered up, similar to a carpenter puttying up knot holes in wood to hide bad work. How many of these so-called dentists do we hear boasting that they have saved so many teeth?

To prevent very thick pieces from being porous when vulcanizing, cut pieces from an old rubber plate, scrape or file the surfaces clean and put the thickest part among the new soft rubber when packing. Small pieces of Watt's metal or block tin will answer the same purpose when weight is no objection; for lower cases the metal is best.

Twist a piece of wire, either tinned, nickle or aluminium wire will do, as they are always bright; fasten a small bit of sponge to the end. This makes a handy thing to wet corundum wheels when grinding roots and fitting crowns in the mouth.

Cut a five cent American nickle into strips any size required, drill holes at suitable distances, cut into squares. These can be made octagon or round, by filing off the corners. They make when tapped the handiest nut for regulating to be had.

A piece of sheet lead can be formed into a dish or cup shape by malleting it on a round ball, such as a croquet ball. This makes the best and most durable acid pan ever used, far better than copper; there seems to be no wear out to it. Enough lead should be left at one side to form a handle; lead about an eighth of an inch thick will answer. I have tried enamelled, procelain and copper dishes, but have found nothing to equal lead.

Proceedings of Dental Societies.

University of Toronto.

Below will be found the result of the recent examinations in Toronto University for the degree of D.D.S.

NOTE.—Candidates in honors are arranged alphabetically in two classes; those who fail to obtain honors are placed in Class III., in alphabetical order, together with pass candidates.

Operative Dentistry—Class I.—S. Anderson, J. A. Black, J. H. Fell, H. F. Kinsman, F. B. Ross, D. C. Smith, G. A. Walters.* Class II.—S. A. Aykroyd, E. A. Billings, T. C. Trigger.

Dental Prosthetics—Class II.—Kinsman, Ross. Class III.—Anderson, Aykroyd, Billings, Black, Fell, Smith, Trigger, Walters.

Dental Pathology—Class I.—Anderson, Black, Kinsman, Walters. Class II.—Aykroyd, Billings, Fell, Ross, Smith, Trigger.

Dental Histology—Class I.—Black, Fell, Kinsman. Class II.—Billings, Walters. Class III.—Anderson, Aykroyd, Ross, Smith, Trigger.

Medicine and Surgery—Class I.—Fell, Ross. Class II.—Aykroyd, Black, Kinsman, Walters. Class III.—Anderson, Billings, Smith, Trigger.

Materia Medica and Therapeutics—Class I.—Black, Fell, Trigger, Walters. Class II.—Aykroyd, Kinsman. Class III.—Anderson, Billings, Ross, Smith.

Physiology—Class I.—Fell. Class III.—Anderson, Aykroyd, Billings, Black, Kinsman, Ross, Smith, Trigger, Walters.

Anatomy—Class I.—Aykroyd, Black. Class II.—Anderson, Billings, Fell, Kinsman, McBride, Ross, Smith, Trigger.

Chemistry—Class I.—Aykroyd, Fell, Kinsman, Ross. Class II.—Anderson, Billings, Black, Smith, Walters. Class III.—Trigger.

Vermont State (U.S.) Dental Society's Sixteenth Annual Meeting, March 16th, 17th and 18th, at Burlington.

We enjoyed a delightful visit to the Vermont Dental Society meetings last March, are indebted to a member for the following report. About eighty members were present. There were: The President, Dr. W. S. Curtis, West Randolph; 1st Vice-President, Dr. George F. Cheney, St. Johnsbury; 2nd Vice-President, Dr. A. J. Parker, Bellows Falls; Secretary, Dr.

*G. A. Walters will take a supplemental in anatomy before being admitted to degree.

Thomas Mound, Rutland ; Treasurer, Dr. W. H. Munsell, Wells River ; Executive Committee, Dr. E. O. Blanchard, West Randolph ; Dr. W. H. Wright, Brandon ; State Prosecutor, Dr. G. W. Hoffman, White River Junction ; Dental Examiners, Dr. G. H. Swift, Manchester ; Dr. James Lewis, Burlington ; Dr. R. M. Chase, Bethel ; Dr. J. L. Perkins, St. Johnsbury; Dr. O. P. Forbush, Montpelier ; A. Z. Cutler, of Bennington ; C. S. Campbell, of St. Albans ; Harden Carpenter, of Strafford ; George W. Hoffman, of Hartford ; N. F. Hamilton, of Richford ; F. W. Hudson, of Brandon ; W. H. Munsell, of Wells River ; E. E. McGovern, of Vergennes ; A. J. Parker, of Townshend ; W. H. Spencer, of Poultney; C. F. O. Tinker, of St. Johnsbury; R. W. Warner, of St. Johnsbury; Charles T. Clarke, of Saxton's River ; B. C. Jenny, of Bennington ; C. R. Huntley, of Brandon ; R. C. Linsley, of Manchester ; C. W. Staples, of Lyndon ; S. Hubbell, of Burlington ; W. George Beers, of Montreal ; Charles F. Meacham, of Ludlow; Geo. Webster, of St. Albans ; G. A. Wheeler, of White River Junction ; James Lewis, S. D. Hodge, J. E. Taggart, of Burlington ; L. Gilman, of St. Albans.

The State Board of Dental Examiners, whose names are given above, held a meeting. During the past year, there have been several licenses issued to the following men who held diplomas from reputable colleges : Fred. McNervy, of Manchester ; Mark H. Brown, of Shelburne Falls, Mass.; K. Longfellow Cleaves, of Montpelier ; J. J. Beardon, of Hoosic Falls, N.Y.; G. L. Feond, of Brandon ; Fred. R. Wilder, of St. Albans ; G. L. Dixon, of Colbrook, N.H.

No candidates have presented themselves for examination during the year, and this is due to the fact that the present law drives men to the colleges. The State Committee for the World's Columbian Dental Congress met, and laid out plans for work. The members of this committee are : G. F. Cheyne, of St. Johnsbury; R. M. Chase, of Bethel ; and Thomas Mound, of Rutland.

The International Dental Congress has appointed as a Finance Committee for the State of Vermont the following men : J. L. Perkins, of St. Johnsbury; James Lewis, of Burlington ; R. M. Chase, of Bethel ; W. H. Wright, of Brandon ; A. J. Parker, of Bellows Falls.

The first session of the meeting opened at 7.30 o'clock, on the 16th, in the parlors of the Van Ness House. President W. S. Curtis presided. The minutes of the previous year were read by the Secretary, Dr. Thomas Mound, of Rutland, and they were approved.

Two applications for membership were presented, bearing the names of George L. Fend, of Bristol, and Charles F. Meacham, of Ludlow, and they were favorably acted upon.

The address of welcome was then made by Dr. James Lewis, of Burlington, who said that it would be useless to offer extended remarks. It required but few words to extend a hearty welcome to all who were in attendance upon this meeting. He spoke of the value of the meetings, of the honorable standing that the Vermont State society holds among kindred organizations.

Dr. S. Hubbell, of Burlington, then presented a paper on "Immediate Root Filling." He said that he believed that this process would be universally adopted if dentists were asked to fill none but healthy roots. Better methods of antiseptic treatment have been adopted than were in use but a comparatively short time ago, and these have done much to remove the difficulty of too precipitous filling. Too prolonged treatment before filling is a wrong practice, and the dentist must use his best judgment in all cases. The paper was strictly technical, dealt with methods that are widely approved, and showed thorough familiarity with the subject. The discussion following it was general.

Dr. Parker, of Bellows Falls, stated that he was in favor of immediate root filling. Dr. Lewis said that he had had better success by immediate root filling, under proper conditions, than by waiting. He had had perfect success in removing the nerves of teeth mechanically, and believed that this operation, if well done, was perfectly successful.

Dr. Hubbell stated that he wished to be understood as being in favor of filling immediately, if the root was healthy, but there were cases where the tooth needed preliminary treatment.

Dr. Hamilton, of Richford, said that he could not fill all roots immediately, and have good results.

Dr. Merriam, of Salem, Mass., stated that in prolonged treatment he had seen very unfavorable results. In many of these cases, the immediate treatment with antiseptics were the most satisfactory. Dr. Spencer, of Rutland, also made remarks.

Dr. G. W. Hoffman, of White River Junction, presented a paper on "Dental Legislation." Because one or more laws are failures is no reason why all legislation of this kind should be decried. "Cease quibbling over technicalities, put your shoulders to the wheel, and do all you can to bring dental legislation to perfection."

Dr. C. W. Staples, of Lyndonville, had been assigned the subject, "A Practical Cleoplastic Plate, with Models." A full explanation of the process of construction of a cleoplastic plate was given, and the models were inspected by those present. The paper made a very interesting and profitable feature of the session.

E. Eddy, formerly of Bellows Falls, and now of Springfield, Mass., and Dr. J. C. Walton, formerly of Brandon, and now of Manchester, N. H., presented their resignations, and they were accepted.

Dr. G. H. Swift, of Manchester, was unanimously, and at his request, removed from the active list and made an honorary member. Dr. Staples moved that a committee be appointed to draw a resolution expressing regret at the condition of Dr. Swift which makes it necessary for him to sever his active connection with the society, stating the gratitude of all members at the valuable services rendered by him. The Examining Board, of which Dr. Swift is a member, was constituted a committee to prepare such resolutions for presentation.

The session was then adjourned until the next day.

The following filed applications for membership, and were accepted : Dr. H. L. Cleaves, of Montpelier ; Dr. C. W. Steel, of Barre ; Dr. H. A. Dalrymple, of Rutland. President Curtis found it necessary to change the programme somewhat. Dr. J. E. Waitt, of Boston, explained the method of giving anæsthesia rapidly with a new and improved inhaler. Prof. J. H. Linsley, of New York, read a comprehensive paper on " The Micro-Organisms of the Mouth," which showed much study and a thorough understanding of the subject. A short discussion followed. On motion of Dr. Chase, a vote of thanks was extended Prof. Linsley, and he was also made an honorary member of the society, on motion of Dr. Hodge.

President Curtis then made his annual address, calling the attention of his hearers to the marvellous strides made by nearly all professions as a result of the developing and enlarging of the human mind. He advised the young men not to enter dentistry in search of a fortune, for it was no field for the accumulation of wealth, and they would feel all the while like the man who mortgaged his house to take stock in Fort Payne. Mr. Curtis said that young men desiring to enter the profession should be thoroughly examined as to fitness, thereby relieving the profession of many men whose type is a stumbling-block to dentistry.

It was voted to have one hundred copies of the President's address printed.

Dr. K. Longfellow Cleaves, of Montpelier, expressed his views on " The Formation and Care of the Teeth," in a well-written paper, and his thoughts seemed to meet with universal approval by those present.

A paper on " The Use of Gutta Percha as a Root Canal Filling," by Dr. Forest G. Eddy, of Providence, R.I., came next. Dr. Eddy recommended that kind of filling for his part of the country, as it tended to lessen the danger of the ague, which is prevalent there to some extent, but he did not know how it would work here. Dr. Cheney and Dr. Maher discussed the paper briefly, and an adjournment was taken for dinner.

CLINICS.

At 1.30 o'clock p.m., clinics were held. Dr. C. A. Timme, of New York, demonstrated the use of enamel for inlays ; also facing gold crowns with the same material ; and explained the use of a new seamless gold and platina iridium crown and thermo-cautery apparatus for dental operations. Dr. F. S. Belyea, of Boston, gave a very interesting Clinic on "Crown and Bridge Work." Dr. G. W. Hoffman, of White River Junction, took the subject, "Rapid Gold-filling by the Newbon Reinforcing Process." Dr. G. O. Webster, of St. Albans, gave a clinic on "Staining of Artificial Teeth," and Dr. J. E. Waitt, of Boston, finished the series with one on "The Packard Inhaler."

AFTERNOON SESSION.

The afternoon session, of the 17th, opened at 4.30 o'clock. Dr. W. George Beers, of Montreal, read a paper on "Some Observations during Pregnancy." He gave an exhaustive treatise of the subject, citing the principal authorities and investigations that have been made, and giving the methods of treatment in various cases that he has employed with success. This department of dental science is not as yet thoroughly understood, though beneficial and preventive treatment is prescribed with satisfactory results. In the study of "The Micro-Organisms of the Mouth," it is believed that there may lie some explanation of certain conditions of the teeth during pregnancy.

"Pulp Protection by Cavity Lining," a paper read by Dr. George F. Cheney, of St. Johnsbury, was a valuable feature of the meeting. He believed that, in most cases, a lining should be used with metallic fillings. Sandarac varnish was the substance that Dr. Cheney said he found most useful for a cavity lining.

Dr. Horatio C. Merriam, of Salem, Mass., presented a paper on "Professional Journalism." To preserve and advance the specialism of dentistry, there must be, as in everything else, free thought, free speech, and a free, untrammelled journalism. The counting-room should not be allowed to dictate what goes into the journal. Advertising space should be open at equal rates to all manufacturers of dental goods. A comparatively new departure is the *International Dental Journal*, which is designed to meet the above requirements.

Dr. A. J. Parker, of Bellows Falls, read a paper on "First Dentition." This period is a very important one in the life of persons. Improper care of infants, and bad nourishment or overfeeding are to be avoided. Food that does not require mastication should be used almost exclusively. Lancing the gums often gives immediate relief. The session then adjourned.

THE BANQUET.

The members of the State Dental Society and the visiting ladies who sat down to the banquet, spread in the Van Ness House dining-room, numbered about eighty, and the evident relish with which the several courses were dispensed was proof that the profession is not as wearing on the nerves of the dentist as on those of his patient.

At about 9 o'clock, President W. S. Curtis, of West Randolph, who acted as presiding officer, gave the usual raps indicative of transition from the mere material feast to that of wit and wisdom, and after a pleasant introduction of the sentiment, "The Queen City," he called on Mayor Haselton to respond. Mayor Haselton replied. Toastmaster Curtis presented the toast, "Our Visitors." Dr. Beers replied. To Dr. E. E. McGovern, of Vergennes, was assigned the sentiment, "Our Ladies." "Our Commercial Friends as we see them" was the toast that fell to G. W. Hoffman, of White River Juuction. Dr. J. E. Waitt, of Boston, was requested to say a few words in behalf of dental students. "Qualifications Necessary for a Dentist" was replied to by Dr. R. M. Chase, of Bethel. "Spiritual and Material Progress" had been assigned to W. H. Towne, of Boston. Dr. H. C. Merriam was called on for remarks on the toast, "Love thy Neighbour as Thyself." "The Human Voice," with invidious purpose, was assigned to Dr. Perkins, who, owing to a hard cold, was unable to speak, and he detailed Dr. Lewis, of Burlington, to read his remarks, which were, it may be said, the opposite of a eulogy on the grip. "The Sunset of a Doctor's Practice" was responded to by Dr. Lewis, of Burlington. Presiding Officer Curtis, who, by the way, filled his position admirably throughout, rose to say that the toasts were exhausted, though those present evidently were not, and, as is very unusual for the modern banquet, the occasion ended shortly before 11 o'clock.

Following is a list, including ladies, of those who were present at the banquet, and whose names were not given in the list of the members of the society that was published in the report of the opening session of the meeting: Robert T. Moffatt, of Boston; Burton C. Russell, of Keene, N.H.; Mrs. E. O. Blanchard, of West Randolph; A. A. Minott, of Northfield; J. Holmes Jackson, of Barre; J. H. Collins, of Granville, N.Y.; George L. Fenn, of Bristol; P. L. Ellis and wife, of Swanton; Hon. C. H. Wells, L.D.S., of Huntington, P.Q.; Mr. and Mrs. G. E. Lamb, of Port Henry, N.Y.; J. F. Wilson, of Champlain, N.Y.; Mrs. C. T. Clark, of Saxton's River; A. R. Hines, of Providence; W. H. Towne, of Boston, Mass.; Mayor Seneca Haselton, of Burlington; W. S. Curtis and lady, of West Randolph: Horatio C. Merriam, of Salem, Mass.; F. G. Wallace, of Boston; Miss Grace L. Bosworth,

of Rutland ; C. W. Steele, of Barre ; K. L. Cleaves, of Montpelier ; E. E. Blake, of Williamstown ; A. R. Keltie, of Boston ; T. Hudson, of Troy, N.Y.; H. W. Senott, of Boston ; F. H. Urann, of Boston ; H. I. Homer and wife, of Peru ; A. J. Parker, and wife, of Bellows Falls ; J. A. Macdonald, of Boston ; J. E. Waitt and wife, T. Metcalf Follansbee, F. S. Belyea, of Boston ; R. E. Armstrong, of the U. V. M. class of '93 ; Mrs. C. S. Campbell, of St. Albans ; H. D. Hanway, of New York ; Mrs. S. Hubbell, of Burlington ; C. A. Timme, of New York ; Mrs. G. W. Hoffman, of White River Junction ; F. McNervy, of Manchester ; E. W. Shattuck, of Bristol.

World's Columbian Dental Congress, Chicago.

The report of the Secretary of the General Executive Committee has been issued, from which we take the following extracts. The meetings will begin on the 17th August, 1893, and last until the 27th. The Committees as appointed and confirmed to date, are as follows :

COMMITTEES AS APPOINTED AND CONFIRMED TO DATE.

General Executive Committee.

Dr. W. W. Walker, 67 W. 9th St., N. Y. City., *Chairman;* Dr. A. O. Hunt, Iowa City, Iowa, *Secretary;* Dr. John S. Marshall, 9 Jackson St., Chicago, Ill., *Treasurer;* Dr. W. J. Barton, Paris, Texas ; Dr. L. D. Carpenter, Atlanta, Ga.; Dr. J. Y. Crawford, Nashville, Tenn.; Dr. M. W. Foster, 9 Franklin St., Baltimore, Md.; Dr. A. W. Harlan, 70 Dearborn St., Chicago, Ill.; Dr. H. J. McKellops, 2630 Washington Ave., St. Louis, Mo.; Dr. G. W. McElhaney, Columbus, Ga.; Dr. H. B. Noble, N. Y. Ave., Washington, D. C.; Dr. John C. Storey, Dallas, Texas; Dr. C. S. Stockton, Newark, N. J.; Dr. L. D. Shepard, 330 Dartmouth St., Boston, Mass.; Dr. J. Taft, 7th St., Cincinnati, Ohio.

Committee of Conference for World's Congress Auxiliary.

W. D. Miller, Berlin, Germany; F. Busch, Berlin, Germany; Thos. W. Evans, Paris, France; E. Magitot, Paris, France; G. W. Sparrock, Lima, Peru; W. B. Macleod, Edinburgh, Scotland: A. W. W. Baker, Dublin, Ireland; Earnest Sjoberg, Stockholm, Sweden; Charles S. Tomes, London, England; W. H. Coffin,

London, England; W. Geo. Beers, Montreal, Canada; H. C. Edwards, Madrid, Spain; E. Lecaudy, Paris, France; J. G. Van-Marter, Rome, Italy; Plattschick, Pavia, Italy; Joseph Arkövy, Buda Pesth, Hungary; C. Redard, Geneva, Switzerland; W. H. Morgan, Nashville, Tenn.; W. H. Dwinelle, New York City; R. B. Winder, Baltimore, Md.; Elisha G. Tucker, Boston, Mass.; W. W. H. Thackston, Farmville, Va.; J. B. Rich, Washington, D.C.; J. D. White, Philadelphia, Pa.; W. H. Eames, St. Louis, Mo.; J. B. Patrick, Charleston, S. C.; *C. C. Knowles, San Francisco, Cal.; F. J. S. Gorgas, Baltimore, Md.; G. V. Black, Jacksonville, Ill.; *J. E. Garretson, Philadelphia, Pa.; R. Finlay Hunt, Washington, D. C.; E. Bacon, Portland, Me.; Benjamin Lord, New York City; A. L. Northrop, New York City; W. W. Allport, Chicago, Ill.; W. W. Walker, New York City; L. D. Carpenter, Atlanta, Ga.; J. Y. Crawford, Nashville, Tenn.; W. J. Barton, Paris, Texas; J. Taft, Cincinnati, Ohio; C. S. Stockton, Newark, N. J.; L. D. Shepard, Boston, Mass.; H. J. McKellops, St. Louis, Mo.; A. O. Hunt, Iowa City, Iowa; H. B. Noble, Washington, D. C.; Geo. W. McElhaney, Columbus, Ga.; J. C. Storey, Dallas, Texas; M. W. Foster, Baltimore, Md.; A. W. Harlan, Chicago, Ill.; J. S. Marshall, Chicago, Ill.

Committee No. 1.—General Finance Committee.

L. D. Shepard. 330 Dartmouth St., Boston, Mass., *Chairman;* T. W. Brophy, 96 State St., Chicago, Ill.; A. L. Northrop, N. Y. City.

Committee No. 2.—Programme Committee—not Appointed.

Committee No. 3.—Committee on Exhibits.

Chas. Pruyn, 70 Dearborn St., Chicago, Ill., *Chairman;* Arthur E. Matteson, 3700 Cottage Grove Ave., Chicago, Ill.; E. M. S. Fernandez, 103 State St., Chicago, Ill.

Committee No. 4.—Committee on Transportation.

F. H. Gardiner, 126 State St., Chicago, *Chairman;* V. H. Jackson, 240 Lenox Ave., New York City.; Geo. Eubank, Birmingham, Ala.

Committee No. 5.—Committee on reception.

W. W. Allport, 9 Jackson St., Chicago; W. W. H. Thackston, Farmville, Va.; *G. H. Bently, 70 Dearborn St. Chicago; E. M. S. Fernandez, 103 State St., Chicago; Geo. A. Christmann, Staats Zeitung Building, Chicago; James McManus, 32 Pratt St., Hartford, Conn.; Elisha G. Tucker, Boston, Mass.; John D. Thomas, 912 Walnut St., Philadelphia, Pa.; H. J. McKellops, 2630 Washington

*Declined.

Ave., St. Louis; L. L. Dunbar, 500 Sutter St., San Francisco, Cal.; V. E. Turner, Raleigh, N. C.; Joseph Bauer, 130 Esplanade St., New Orleans, La.; J. F. P. Hudson, 19 West 39th St., N. Y. City; W. P. Dickinson, 608½ Nicollett Ave., Minneapolis, Minn.; C. F. W. Holbrook, 34 Park St., Newark, N. J.; W. J. Foster, 9 West Franklin St., Baltimore, Md.; R. M. Sanger, East Orange, N. J.

Committee No. 6.—Committee on Registration.

Fred. A. Levy, 343 Main St., Orange, New Jersey, *Chairman;* E. L. Clifford, 401 West Monroe St., Chicago, Ill.; Geo. N. West; 34 Monroe St., Chicago, Ill.; J. Y. Crawford, Nashville, Tenn.; C. V. Rosser, Atlanta, Georgia; T. L. James, Fairfield, Iowa; W. H. Fundenburgh, 323 Pennsylvania Ave., Pittsburg.

Committee No. 7.—Committee on Printing Transactions—not Appointed.

Committee No. 8.—Committee on Conference with State and Local Societies.

J. Taft, Cincinnati, Ohio, *Chairman.*

List of State Committees.

Alabama—E. S. Chisholm, Tuscaloosa, Chairman; A. Eubank, Birmingham; Chas. P. Robinson, Mobile; G. M. Rousseau, Montgomery.

Arizona—L. N. Goodrich, Phoenix, Chairman; D. Pentland, Prescott; J. Hardy Phoenix; W. Warnekross, Tombstone.

Arkansas—M. C. Marshall, Little Rock, Chairman; W. B. Pollard, Hot Springs; L. K. Land, Pine Bluff; R. D. Seals, Fort Smith; A. E. Kimmons, Fort Smith.

California—C. L. Goddard, San Francisco, Chairman; W. J. Younger, San Francisco; E. L. Townsend Los Angeles.

Colorado—P. T. Smith, Denver, Chairman; W. E. Griswold, Denver; H. P. Kelly, Denver; R. B. Weiser, Georgetown.

Connecticut—E. S. Gaylord, New Haven, Chairman; Jas. McManus, Hartford; R. W. Browne, New London.

Delaware—C. H. Gilpin, Middleton, Chairman; C. R. Jefferis, Wilmington.

District of Columbia—Henry C. Thompson, Washington, Chairman; R. B. Donaldson, J. Hall Lewis, L. C. F. Hugo, H. M. Schooley.

Florida—J. N. Jones, Jacksonville, Chairman; James Chace, Ocala; Duff Post, Tampa; I. J. Welch, Pensacola.

Georgia—S. B. Barfield, Macon, Chairman; John H. Coyle, Thomasville; H. H. Johnson, Macon; W. C. Wardlaw, Augusta.

Idaho—E. L. P. Ector, Moscow, Chairman; John H. McCallie, Moscow; A. Boston, Lewiston.

Illinoes—W. H. Taggart, Freeport, Chairman; C. N. Johnson, Chicago; J. J. Jennelle, Cairo.

Indiana—J. B. Morrison, Indianapolis, Chairman: P. G. C. Hunt, Indianapolis; S. B. Browne, Fort Wayne.

Iowa—C. J. Peterson, Dubuque, Chairman; S. C. Hatch, Sioux City; L. K. Fullerton, Waterloo.

Kansas—L. C. Wasson, Topeka, Chairman; C. E. Esterley, Lawrence; Wm. H. Schulze, Atchison.

Kentucky—C. G. Edwards, Louisville, Chairman; Chas. E. Dunn, Louisville; F. Peabody, Louisville.

Louisiana—C. E. Kells, jun., New Orleans, Chairman; Joseph Bauer, New Orleans. Andrew G. Friedericks, New Orleans.

Maine—D. W. Fellows, Portland, Chairman; Edmund C. Bryant, Pittsfield; Henry A. Kelly, Portland.

Maryland—E. P. Keech, Baltimore, Chairman; A. J. Volck, Baltimore; Edward Nelson, Frederick.

Massachusetts—D. M. Clapp, Boston, Chairman; W. H. Potter, Secretary; Eugene H. Smith, Boston; S. G. Stevens, Boston; D. B. Ingalls, Clinton; R. R. Andrews, Cambridge.

Michigan—C. S. Case, Jackson, Chairman; Geo. L. Field, Detroit; F. L. Owen, Grand Rapids.

Minnesota—T. E. Weeks, Minneapolis, Chairman; M. G. Jenison, Minneapolis; C. H. Robinson, Wabasha.

Mississippi—Morgan Adams, Sardis, Chairman; R. K. Luckie, Holly Springs; J. D. Miles, Vicksburg; G. B. Clements, Macon.

Missouri—C. L. Hungerford, Kansas City, Chairman; A. H. Fuller, St. Louis; J. D. Patterson, Kansas City.

Montana—C. S. Whitney, Miles City.

Nebraska—H. T. King, Fremont, Chairman: A. W. Nason, Omaha; H. C. Miller, Grand Island; H. J. Cole, Norfolk; I. W. Funck, Beatrice.

Nevada—A. Chapman, Virginia City, Chairman; M. A. Greenlaw, Reno; S. S. Southworth, Carson City.

New Hampshire—C. W. Clements, Manchester, Chairman; G. A. Young, Concord; Wm. Jarvis, Claremont; W. R. Blackstone, Manchester; C. H. Hayward, Peterborough; B. C. Russell, Keene.

New Jersey—S. C. G. Watkins, Mont Clair, Chairman; B. F. Luckey, Paterson; R. M. Sanger, E. Orange.

New York—John I. Hart, New York City, Chairman; K. C. Gibson, New York; W. Carr, New York; M. L. Chaim, New York; Chas. Butler, Buffalo; F. A. Remington, New York.

North Carolina—V. E. Turner, Raleigh, Chairman; J. H. Durham, Wilmington; J. F. Griffith, Salisbury.

North Dakota—S. J. Hill, Fargo, Chairman; S. P. Johnson,

Grand Forks; W. O. DePuy, Bismarck; H. S. Sowles, Wahpeton; E. M. Pierce, Hillsboro.

Ohio—D. R. Jennings, Cleveland, Chairman; H. F. Harvey, Cleveland; M. H. Fletcher, Cincinnati; L. E. Custer, Dayton; A. F. Emminger, Columbus.

Oklahoma Territory—D. A. Peoples, Guthrie, Chairman; G. F. Dean, Oklahoma City; J. S. Nickolson, El Reno.

Oregon—S. J. Barber, Portland, Chairman; E. G. Clark, Portland.

Pennsylvania—L. A. Faught, Philadelphia, Chairman; C. S. Beck, Wilkesbarre; J. A. Libbey, Pittsburg.

South Carolina—Thos. T. Moore, Columbia, Chairman; W. S. Brown, Charleston; A. P. Johnstone, Anderson; B. H. Teague, Aiken.

South Dakota—O. M. Huestis, Aberdeen, Chairman; C. W. Stutenroth, Watertown; F. W. Blomily, Sioux Falls.

Tennessee—H. W. Morgan, Nashville, Chairman; B. S. Byrnes, Memphis; W. H. Richards, Knoxville; H. E. Beach, Clarksville.

Texas—W. R. Clifton, Waco, Chairman; G. M. Patten, Galveston; Tom Robinson, Houston; Geo. S. Staples, Sherman; T. L. Westerfield, Dallas; H. J. McBride, Tyler.

Utah—A. S. Chapman, Salt Lake City, Chairman; A. B. Dunford, Salt Lake; F. W. Baker, Ogden.

Vermont—G. F. Cheney, St. Johnsbury, Chairman; Thomas Mound, Rutland; R. M. Chase, Bethel.

Virginia—J. Hall Moore, Richmond, Chairman; W. W. H. Thackston, Farmville; Jos. R. Woodley, Norfolk; E. P. Beadles, Danville; T. H. Parramore, Hampton; D. W. Rust, Alexander.

Washington—W. E Burkhardt, Tacoma, Chairman; F. P. Hicks, Tacoma; J. C. Grasse, Seattle.

West Virginia—H. H. Harrison, Wheeling, Chairman; Jno. H. McClure, Wheeling; H. K. Jones, Parkersburg; George I. Keener, Grafton; J. N. Mahan, Charleston.

Wisconsin—B. G. Marcklein, Milwaukee, Chairman; C. C. Chittenden, Madison; George H. McCausey, Janesville.

Wyoming—Waiting for nominations.

Committee No. 9.—Committee on the History of Dental Legislation in this and other Countries.

William Carr, New York City, N.Y., *Chairman;* Paul Dubois, 2 Rue d'Amsterdam, Paris; F. Busch, Berlin, Germany; J. H. Mummery, London, England; M. Etcheparaborda, Beunos Ayres, South America.

Committee No. 10.—Auditing Committee.

L. D. Shepard, Boston, Mass., *Chairman;* R. R. Andrews, Cambridge, Mass.; Chas. A. Meeker, Newark, N.J.

Committee No. 11.—Committee on Invitation.

W. C. Barrett, 208 Franklin St., Buffalo, N.Y., *Chairman;* E. T. Darby, 1513 Walnut St., Philadelphia, Pa.; S. G. Perry, 46 West 37th St., New York City; W. C. Wardlaw, Augusta, Georgia; S. W. Dennis, 81 Flood Building, San Francisco, Cal.; *Thomas H. Chandler, 161 Newbery St., Boston, Mass.; J. D. Patterson, Kansas City, Mo.

Committee No. 12.—Committee on Membership.

Edmund Noyes, 65 Randolph St., Chicago, Ill.; B. F. Luckey, Patterson, N.J.; E. S. Chisholm, Tuscaloosa, Alabama; C. M. Bailey, 28 Syndicate Block, Minneapolis, Minn.; Daniel N. McQuillen, 1628 Chestnut St., Philadelphia, Pa.

Committee No. 13.—Committee on Education and Literary Exhibits.

J. J. R. Patrick, Belleville, Ill.; J. Y. Crawford, Nashville, Tenn.; A. H. Fuller, 2602 Locust St., St Louis, Mo.; C. A. Brackett, 102 Truro St., Newport, R.I.; B. H. Catching, Atlanta, Ga.

Committee No. 14.—Committee on Clinics in Operative Dentistry and Oral Surgery.

C. F. W. Bodecker, 60 East 58 St., New York City, *Chairman;* S. C. G. Watkins, Montclair, N.J.; John S. Marshall, 9 Jackson St., Chicago, Ill.; Arthur B. Freeman, 325 West Madison St., Chicago, Ill.; H. H. Schumann, 240 Wabash Ave., Chicago, Ill.; Henry W. Morgan, Nashville, Tenn.; William Crenshaw, Atlanta, Georgia.

Committee No. 15.—Committee on Prosthetic Dentistry.

S. H. Guilford, Philadelphia, Pa., *Chairman;* L. P. Haskell, 211 Wabash Ave., Chicago, Ill.; A. P. Johnstone, Anderson, South Carolina; W. N. Morrison, St. Louis, Mo.; Fred. C. Barlow, 646 Jersey Ave., Jersey City; J. Hall Lewis, 1309 F. St., N. W., Washington, D.C.; A. O. Hunt, Iowa City, Iowa; R. R. Freeman, Nashville, Tenn.; E. S. Gaylord, New Haven, Conn.

Committee No. 16.—Local Committee of Arrangements.

E. S. Talbot, 125 State St., Chicago, Ill., *Chairman;* F. H. Gardiner, 126 State St., Chicago, Ill.; C. N. Johnson, Opera House Building, Chicago, Ill.; D. B. Freeman, 4000 Drexel Boulevard, Chicago; H. J. McKellops, 2630 Washington Ave., St. Louis, Mo.

COMMITTEE NO. 17.—COMMITTEE ON ESSAYS.

E. C. Kirk, Philadelphia, Pa., *Chairman;* J. W. Wassall, Chicago, Ill.; A. H. Thompson, Topeka, Kansas; H. H. Johnson, 26 2d St., Macon, Ga.; L. G. Noel, Nashville, Tenn.

COMMITTEE NO. 18.—COMMITTEE ON HISTORY OF DENTISTRY IN THE UNITED STATES.

J. Taft, Cincinnati, Ohio, *Chairman;* Louis Jack, 1315 Locust St., Philadelphia, Pa.; F. T. VanWort, Brooklyn, N.Y.; F. J. S. Gorgas, Baltimore, Md.; H. L. McKellops, 632 Sutter St., San Francisco, California; E. G. Betty, Cincinnati, Ohio; J. B. Patrick, Charleston, South Carolina.

COMMITTEE NO. 19.—ON NOMENCLATURE—NOT APPOINTED.

COMMITTEE NO 20.—COMMITTEE TO PROMOTE THE APPOINTMENT OF DENTAL SURGEONS IN THE ARMIES AND NAVIES OF THE WORLD.

M. W. Foster, Baltimore, *Chairman;* B. Holly Smith, Baltimore; Geo. Cunningham, Cambridge, England; De Gallippe, Paris; Adolph Weil, Munich; *J. B. Wilmott, Toronto, Canada; Jno. E. Gievers, Amsterdam, Holland; E. DeTrey, Vevey, Switzerland: A. Szigmondy, Vienna; O. Mela, Geneva, Italy; V. Haderup, Copenhagen; O. J. Chrustchow, St. Petersburg, Russia; Alex. McG. Denham, Monjitas 68½, Chili; Geo. B. Newland, 107 Calle Florida, Buenos Ayres.

COMMITTEE NO. 21.—COMMITTEE ON CARE OF THE TEETH OF THE POOR.

W. J. Barton, Pavis, Texas, *Chairman;* C. A. Brackett, Newport, R. I.; *G.S. Dean, San Francisco; T. D. Ingersoll, Erie, Pa.; W. M. Fisher, Dundee, Scotland.

COMMITTEE NO. 22.—COMMITTEE ON BIOLOGY AND BACTERIOLOGY.

R. R. Andrews, Cambridge, Mass., *Chairman;* M. H. Fletcher, Cincinnati, Ohio; W. X. Sudduth, Minneapolis, Minn.; W. D. Miller, Berlin, Germany; J. H. Mummery, London, England; D. E. Caush, Brighton, England; E. Magitot, Paris, France; M. Morgensten, Baden, Baden, Germany; Geo. S. Allan, New York City, N. Y.

COMMITTEE NO. 23.—COMMITTEE ON PRIZE ESSAYS.

Theo. Stanley, Kansas City, Mo., *Chairman;* *J. Hall Moore, Richmond; C. S. Stockton, Newark, N. J.

*Declined.

COMMITTEE NO. 24.—EDITORIAL COMMITTEE.

W. W. Walker, New York City, *Chairman;* A. O. Hunt, Iowa City; L. D. Shepard, Boston; J. Taft, Cincinnati; J. S. Marshall, Chicago.

COMMITTEE NO. 25.—NOMINATING COMMITTEE.

W. W. Walker, New York City, *Chairman;* A. W. Harlan, Chicago, Ill.; John S. Marshall, Chicago, Ill.

NOTE.—Until this time there has been very little of the proceedings of the General Executive Committee that was in shape for publication for the Dental Journals. All the work done by the Committee so far has been organizing the several Committees and planning their work. The work of organization has been very slow as it has taken considerable time to give notices to the various persons appointed on the several Committees and receive their replies, which in all cases have not been as prompt as they should have been. It was impossible to send out anything like a finished report of the Committee until these replies were received. As now published the Committees are ready for work. All the Committees are not appointed that will be needed. Other names will be added to the Committees already appointed, and from time to time circulars will be issued by the Editorial Committee and published in the Dental Journals giving the necessary information to the profession.

A. O HUNT, *Secretary.*

Legislation.

An Act to amend The Act respecting Dentistry in Ontario.

Her Majesty, by and with the advice and consent of the Legislative Assembly of the Province of Ontario, enacts as follows:—

1. Section 3 of the *Act respecting Dentistry* is repealed and the following inserted in lieu thereof:—

3.—(1) There shall be a board of directors of the said Royal College of Dental Surgeons of Ontario, to be constituted in the manner hereinafter provided for in this Act and referred to in this Act as the "Board."

(2) The Board shall consist of eight members, of all whom shall be members of the said Royal College of Dental Surgeons of Ontario, who shall hold office for two years, and of whom any four shall form a quorum.

(3) One member of the board shall be elected from each of the electoral districts mentioned in schedule A to this Act by the members of the college resident in such district, and each member of the board shall be an elector in the electoral district he represents and shall not be a member of the faculty of the school of dentistry constituted under section 9 of the said *Act respecting Dentistry*. When a vacancy occurs in the representation of the faculty such a vacancy shall be filled by the faculty.

(4) One member of the board shall be elected by and from the faculty of the school of dentistry constituted under section 9 of the said *Act respecting Dentistry*.

(5) Any member of the board may at any time resign by letter directed to the secretary, and in the event of such resignation, or a vacancy occurring by death or otherwise, the remaining members of the board shall elect some fit and proper person from among the members of the college to fill the vacancy for the remainder of the term from the members in the electoral district in which the vacancy occurs.

2. Section 4 of the said Act is repealed, and the following inserted in lieu thereof :—

4.—(1) Elections of the board shall be held on the second Wednesday of December in every second year reckoning from the year 1890 ; and the present board of directors shall hold office until the first meeting of the new board.

(2) The persons qualified to vote at such elections shall be the members of the Royal College of Dental Surgeons of Ontario under the provisions of the Acts respecting dentistry heretofore in force, or under the provisions of this Act, and are not in arrears in respect to any fees payable under the provisions of this Act and are resident in the Province of Ontario.

(3) The votes at said elections shall be given by closed voting papers in the form described in schedule "B" to this Act, and shall be delivered to the secretary of the said College by registered letter before the second Wednesday in December in the year in which the election takes place.

(4) The Province of Ontario shall be divided into the seven electoral districts described in Schedule "A" to this Act.

(5) The manner of holding such election shall, with respect to notification of the electors of the time and place of holding the election, the nomination of candidates therefor, the presiding officer thereat, the taking and counting of the votes, the giving of a casting vote in case of an equality of votes, other necessary details be determined by by-laws to be passed by the board, and in default of such by-laws the Lieutenant-Governor in Council may prescribe the time and manner of holding such election.

(6) Every newly-elected board shall hold its first meeting in Toronto, on the fourth Tuesday in March or at such other time as

may be fixed by the retiring board, and the members of such board shall hold office until the first meeting of their successors. Specia meetings of the board shall be called by the president on the request in writing of four members of the board.

3. Section 5 of the *Act respecting Dentistry* is repealed.

4. Sub-section 1 of section 6 of the said Act is repealed and the following substituted therefor :—

(1) Every board shall at its first meeting elect a president, treasurer, and registrar, and shall appoint a secretary who shall reside in the city of Toronto, and such other officers as the Board may consider necessary. The treasurer and secretary shall receive such remuneration for their services as the board may decide.

5. Section 11 of the said Act is amended by striking out the words "before the board" and adding to the section the words : "and to fix and determine the conditions upon which dentists residing elsewhere than in Ontario, and students and graduates from other dental colleges may be admitted to membership in the Royal College of Dental Surgeons of Ontario.

6. Each member of the college engaged in the practice of dentistry in the Province of Ontario shall pay to the treasurer or to any person deputed by the treasurer to receive the same, on or before the first day of November of each year, such annual fee as may be determined by by-law of the board, not less than $1 nor more than $3, towards the general expenses of the college, and such fee shall be recoverable with costs by suit in the name of the Royal College of Dental Surgeons of Ontario, in the Division Court having jurisdiction where the member so in default resides, and such member shall not be entitled to recover in any court for any services rendered in the practice of dentistry while so in default, but no funds collected under this section shall be disbursed otherwise than for the expenses of the board and the enforcement of the penal clauses of this Act.

SCHEDULE "A."

(Section 2.)

Electoral District No. 1 shall be composed of the following counties :—Addington, Carleton, Dundas, Frontenac, Glengarry, Lanark, Leeds, Lennox, Prescott, Russell, Renfrew, Stormont, Grenville.

Electoral District No. 2 shall consist of the following counties :—Algoma, Durham, Hastings, Nipissing, Northumberland, Muskoka, Ontario, Prince Edward, Parry Sound, Peterboro', Victoria, York, except Toronto.

Electoral District No. 3 shall consist of the City of Toronto.

Electoral District No. 4 shall consist of the following counties :—Halton, Dufferin, Lincoln, Peel, Simcoe, Wentworth, Welland.

Electoral District No. 5 shall consist of the following counties:—Brant, Elgin, Haldimand, Norfolk, Oxford, Waterloo.

Electoral District No. 6 shall consist of the following counties:—Grey, Bruce, Huron, Wellington.

Electoral District No. 7 shall consist of the following counties:—Essex, Kent, Lambton, Middlesex, Perth,

SCHEDULE "B."

(Section 2.)

Election 18 .

Electoral District No,

I, of the of in the county member of the Royal College of Dental Surgeons of Ontario do hereby declare:—

1. That the signature affixed hereto is my proper hand-writing.

2. That I am a voter in the Electoral District No. , and that I vote for of the of in the County of a member of the Royal College of Dental Surgeons of Ontario, and an elector in said electoral district, to be a member of the Board of Directors of the College for the said district.

3. That I have not in this election signed any other voting paper, and that this voting paper was executed on the day of the date thereof.

Witness my hand this day of A.D. 18

Obituary.

Wm. Patterson, L.D.S., Paris, Ont.

We regret to chronicle the death on the 29th of March of Wm. Patterson, at the age of 63 years, after being confined to the house for over sixteen months. For over thirty years he was in practice, and earned the confidence of a large circle of patients and the respect of his confreres. He is succeeded by his son, Mr. William W. Patterson. The deceased was born in Reston, Scotland, and came to Canada in 1832.

Editorial.

What Will Canada Do?

The proposed Dental Congress in Chicago next year will be something Canadian dentists should make up their minds to enjoy. The most systematic arrangements are being perfected, and nothing left undone to make it by far the finest gathering of the profession the world has ever seen. We devote a good deal of space to the list of the committees, and in future numbers will keep the matter before our readers. We hope Canada will do its best.

Prosecutions.

Many licentiates have an idea that the members of the Board of Examiners should fulfil the duty of spies and detectives. If there is a quack in any obscure corner of any county they expect some officer of the Board to be omniscient as well as omnipresent, while they are particularly anxious to be *incognita* themselves. Nevertheless, though it is no more the duty of members of the Board than of others to secure information of illegal practice, it has been a duty voluntarily assumed, and most of the prosecutions have been brought about by the action of such officials. In Quebec Province, especially, has this been the case, for the simple reason that if they had not been instigated by members of the Board they would have been altogether ignored. Last month two more cases were brought before the police court; one offender was fined $100 and costs, another $25 and costs. One of the most sublime exhibitions of cheek is attempted by the latter offender, who has been twice fined. Though he has been drawing a regular salary as an employee in a commercial firm, pretending to be indentured to a licentiate at the same time, and not having passed more than a few months in the office, he has applied to the local legislature for a private bill to permit him to practise without license, fee or examination. Quack premiers and boodling politicians reflect their principles upon every class of society, but there is hope at last for Quebec, as Mercier is degraded and honest men have hold of the helm.

Old-Time Journalism.

When the *American Journal of Dental Science* was first issued, in June, 1839, there was only one subscriber from all British America, and he was a New Brunswicker. Can any of our friends tell us his name? England gave twenty-two, Scotland four, and the West Indies one. In Maine, Vermont, Delaware, Mississippi, Michigan, there were no subscribers. New York led off with ninety-one, and Illinois had only two. There were just 348 subscribers, and a total publication of 767 copies, Chapin Harris, Eleazor Parmby, and J. J. Greenwood, each taking forty copies, and fifteen others taking twenty copies each.

There were only twelve hundred dentists in the United States, and, as Chapin Harris said, "not more than one-sixth possess any just claims to correct or thorough knowledge of the pursuit."

The few good men who banded themselves together were impelled to the movement by notorious empiricism, and one of the first of the remarkable articles written at the time by Solyman Brown, was on "Professional Morality," in which he administered a stinging castigation to the "fraud, avarice, and immorality of the professional liars," some of whose lineal descendants degrade us to-day.

Miscellaneous.

Fined for Pulling Teeth.

GALT, Ont, Jan. 9.—Detective Newhall, of Toronto, representing the Royal College of Dental Surgeons, arrived in this town a few days ago and instituted proceedings against one Jesse Willard, who was practising dentistry without a license. On the 6th, Willard was fined $20 and costs in each of two cases, and to-day three other charges were preferred against him. Willard was not present to-day, it being understood that he has left the town. In his absence, however, he was fined $20 and costs in each of the three cases, making in all $100 and costs in the five cases.

Chloroform-anæsthetization has been modified by Dr. O. Zuckerkandl, of Prof. Von Dettel's surgical clinic, as follows :—Instead of pouring the chloroform on the mask in *large* quantities, it is *dropped* slowly and steadily on the mask from the beginning up to the appearance of the narcosis. The usual disturbances are wanting in this procedure. There is 0.6 grammes (8 minims) of chloroform used on the average in a minute, whereas 1 gramme (15 minims) is used per minute by the customary pouring method.

"To mention the names of those individuals who, in our opinion, manufacture mineral teeth in the greatest perfection, might appear invidious, and is wholly unnecessary, as those interested *will judge for* themselves ; yet we hope we may be allowed the indulgence of saying, without trespassing on the limits of modesty, or infringing upon the privileges or merits of any individual, that, in our candid judgment, the teeth which possess all the requisite qualities before mentioned, in the greatest perfection, are *Spooner's mineral teeth*, invented by Dr. J. R. Spooner, of Montreal, by a long series of indefatigable, laborious and expensive experiments. Many specimens of these teeth have been exhibited in New York, and many of them inserted by different dentists in the State, yet the process of manufacturing has been so tedious and expensive that they have not been offered in the market for general use."—*Shearyashub Spooner's Guide to Sound Teeth, 1836.*

Laborde, in a paper read before the Académie de Médicine, at Paris, states that he discovered by animal experiments, that narceine is capable of preventing the vomiting and the digestive disturbances frequently resulting from internal employment of chloroform, as well as the possible serious consequences of a profound chloroform *narcosis.—Merck's Bulletin.*

"Pitch thy behaviour low ; thy projects high ;
So shalt thou humble and magnanimous be.
Sink not in spirit : who aimeth at the sky,
Shoots higher much than he that means a tree."

—*Geo. Herbert, 1619.*

Mr. Henry M. Justi has been admitted a partner with his father. Mr. Justi, jun., is well known as a polite and practical "chip of the old block." The new firm will be known as H. D. Justi & Son.

Reviews.

Chart of the Constitutional Irregularities of the Teeth. By EUGENE S. TALBOT, M.D., D.D.S. Published by Wilmington Dental Manufacturing Co., Philadelphia, 1891. Price $2.50.

Sixteen large and beautiful plates, lithographed in colors from original drawings and models by the author, of typical cases which have occurred in Dr. Talbot's practice from time to time within fifteen years, and which many will recognize as occurring in their own. The forms were selected from groups which were arranged from a collection of three thousand models. "The object," says the author, "of publishing this work, is to illustrate the typical form of constitutional irregularities of the jaws and teeth, so that the teacher and student may readily comprehend the various positions which the jaws and teeth may assume." The chart ought to be a great assistance in the study of orthodontia.

Catching's Compendium of Practical Dentistry, 1891. B. H. CATCHING, D.D.S., Editor and Publisher, Atlanta, Ga.

We commended this scheme of Dr. Catching's last year, as a very valuable annual addition to our literature, and the issue for 1891 evidently decides its place as a permanent necessity for the wide-awake dentist, or the sleepy ones who need to be wakened. The index comprises every practical subject from a. to z., in operative and prosthetic dentistry, crown, bridge and inlay work, dental medicine, oral surgery, and miscellaneous. It is a most carefully selected compendium of practical matter from all the dental journals. It also contains a synopsis of laws governing practice in the United States and Canada ; a list of all the journals, books and pamphlets pertaining to dentistry published during the year.

Transactions of the New York Odontological Society, 1891. Philadelphia, J. B. Lippincott, 1892.

Another valued addition to the series of the society publications.

DOMINION DENTAL JOURNAL.

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Original Communications.

Uses for the Oxysulphate of Zinc.

By W. D. MILLER, Berlin.

The oxysulphate of zinc is a material which, as far as I have been able to ascertain, is not as extensively used as, in my opinion, it deserves to be. I personally make such constant and diversified use of it in my practice, and find it for certain purposes so superior to other materials that I am inclined to believe that a few notes concerning it might be of service to the readers of the DOMINION DENTAL JOURNAL who have not made a trial of the material.

The preparation which I make use of is known as Fletcher's Artificial Dentine. Recently other preparations of similar nature have been introduced here in Berlin. I am not acquainted with the preparations on the market in America.

The one I use consists of a white or yellowish-white powder, oxide of zinc, and a syrupy, opaque liquid, whose exact composition I am unable to give. As I have been informed by the manufacturer, "the artificial dentine is an oxysulphate in the same sense that the oxychlorides are oxychlorides; the hydrochloric acid in the basic compound is replaced by sulphuric acid, and it is really a basic sulphate of zinc with a small proportion of free oxide."

When mixed moderately thick it hardens quite rapidly, in fact as soon as it is in the cavity it is hard enough to undergo the necessary trimming. The time required for its setting can, however, be increased *ad libitum* by mixing it sufficiently thin. Like other preparations of its kind, it rapidly deteriorates in quality if any impurities obtain access to it, or if the bottles are not kept perfectly corked.

When fully hardened it has not quite the hardness of plaster of Paris, but is a little tougher. In positions where it is not affected by mastication, I have known it to last as long as two years, though it is solely for temporary purposes that I use or recommend it. It is practically non-irritant ; a quantity of the material mixed, being taken upon the tongue, produces about the sensation of a half per cent. solution of carbolic acid. I use it in my private practice and at the dental institute of the University :

1. For capping exposed pulps. When the pulp has been fully prepared for capping I mix a small quantity of the cement to such a consistency that, when it is taken upon the point of an excavator, it does not flow off from it but still is sufficiently thin to hang down in the shape of a minute drop. If a drop of cement of this consistency a little larger than a pin head is brought into contact with the point of exposure, it spreads itself out over the surface of the pulp, adapting itself perfectly to its irregularities and forming a much more perfect covering than can be obtained with asbestos, pieces of paper, gutta percha or any other material which cannot be applied in a semi-fluid state ; besides, what is of greatest importance, it may be applied without a trace of pressure.

Those who for certain cases favor an antiseptic capping may easily produce the desired action by incorporating the antiseptic into the capping material, though some substances interfere with the hardening. As soon as the cap has hardened which requires about two minutes (more if the cement was mixed very thin), the filling may be completed. If it is a doubtful case, I finish the operation with *oxysulphate* and wait three or four weeks. If it is a fresh exposure and the pulp healthy, I finish with *oxyphosphate.* If finally I have every reason to exclude the possibility of a failure, I place a layer of oxyphosphate, over the cap of oxysulphate, and complete the operation with a permanent filling material at once. The directions for use accompanying the material appear to me to

be fundamentally wrong ; my manner of using it will, I am sure, give better results.

2. In the operation of perforating or removing hard fillings from pericementitic teeth, I have found the oxysulphate to be of the greatest service. How painful if not unbearable for the patient, and how trying to the operator it is to operate upon a tooth which may be so sensitive that the slightest touch causes excruciating pain, we all know, and yet this operation may be made almost or quite painless. Dry the tooth to be operated upon as well as the adjoining tooth, on each side, with bibulous paper, then mix a large quantity of the oxysulphate, say half a thimble full, and plaster it with a broad spatula upon the lingual as well as labial surface of the three teeth, slightly pressing upon it so as to force it between the teeth. It hardens sufficiently in one or two minutes to fix the tooth immovably between the adjoining teeth. The ease with which the operation of removing the filling may then be performed is often a matter of surprise, both to patient and operator. In these cases plaster of Paris may take the place of oxysulphate.

3. In like manner oxysulphate or plaster of Paris, may be used during the operation of filling with gold, for fixing teeth which have become loosened, no matter by what process.

4. I also sometimes make use of the oxysulphate for pressing the gums away from the cervical margin of cavities, particularly in wedgeshaped cavities where cotton cannot be made to hold. Dry the cavity thoroughly and fill it with cement mixed rather thick, and when it has begun to harden press upon it with a pledget of cotton. The cement spreads out and forces the gums back at the margin of the cavity.

5. For enclosing applications on cotton of whatever nature I have found the oxysulphate vastly superior to gutta percha. Whether I have to make an application to an inflamed pulp, for the purpose of sterilizing the cavity, or disinfecting a root canal or devitalizing a pulp, or obtunding sensitive dentine, I almost invariably cover it with the oxysulphate. It is a very difficult matter to cover a pledget of cotton, well saturated with liquid, with gutta percha, particularly in a shallow cavity, but it may be very easily accomplished with oxysulphate. The necessary experience in the manipulation of the material is best acquired by making a

few fillings out of the mouth. It is particularly in making applications of arsenic to the dental pulp that the manner of enclosing them has great advantages, as it admits of keeping a local anæsthetic constantly in contact with the pulp and avoids the pressure which is too frequently a cause of severe pain following such applications.

6. I now and then use the oxysulphate for fixing metallic caps over the teeth in regulating appliances where they are to remain but a short time, also for temporarily setting pivot teeth. In short, any one who becomes acquainted with the material will find it so useful that he will wonder how he was ever able to get along without it.

Dental Dots.

By D. V. Beacock, Brockville, Ont.

In filling a cavity in the anterior part of a lower molar that is well down under the gum, the bicuspid missing, it is sometimes difficult to keep the rubber down even when a clamp is used. Take a thin piece of metal, German silver or Taggart tin, fit it neatly between the teeth. When the rubber is adjusted, press this firmly down ; it will carry the rubber below the edge of the cavity and hold it there.

I once heard Prof. Mayr say at a dental meeting, that it had been the peculiar treatment of dentists to recommend and give phosphate of lime and phosphate food in general, with the idea of supplying that which was wanting—the lime salts in the teeth. Said he : You may pack such children in a lime barrel, you can feed them lime stew and lime ash without effect, for their teeth will not take up a particle more. The lime has to be introduced through the proper channels and in proper form. The digestive department is just as full of red tape as that of any Government. All its supplies have to go a certain regulated course, without which they are not accepted.

A small sized wooden screw, screwed into the root of a tooth, answers well for packing gutta percha or composition around ; when we want to force the gum out of the way, leave it two or

three days. The head of the screw serves to hold the material in place ; no danger of it coming out when once set.

Dr. Eleazer Parmley says that the first gold filling he ever saw was in 1815, and it was put in by Dr. Wait, of London, England.

An old lady remarked to me the other day, "Oh, dear ! our teeth are a trouble when they are coming, a trouble when they are here, and a trouble when they gone, very like our children, in this respect."

Artificial teeth may serve very well for mastication, yet as in speech or expression, which depends on colour, size, position and relative arrangement, may be very defective in other respects. Temperament, complexion, contour, and general cast of countenance should all be considered in the construction of a proper set of artificial teeth, to constitute a successful work of art.

Dentistry relies more upon common sense views and practice than any other profession. The physician never knows whether his medicine or nature has done the work. The lawyer says there never was a law made that could not be evaded. But the dentist's work, like the poor, is ever present with us. We can see our work that has been done years ago, and know the why and the wherefore if we will.

Cheoplasty was invented by Dr. A. M. Blandy, of Baltimore, in 1854.

The highest aim of the physician is to prolong life ; the highest ambition of every dentist should be to preserve the teeth.

Instead of having your flask screwed—made stationary to the bench, have it so fixed that it can be lifted off and on over the screws, that is, made portable. This can be done by simply filing the heads of the screws. When you put in your flask, both it and the press can be lifted off and set in the boiler or heater, and put on its stand again and screwed down without any handling or using cloths. To keep the flask out of the water while vulcanizing, use part of an old mattress spring or coiled wire strong enough to hold the flask above the water.

There are said to be no less than twelve manufactories of artificial teeth in the United States, which make 10,000,000 of these useful articles per annum.

We have new departures, old departures, in fact all sorts of departures are now in vogue ; the new arrogantly scoffing at the

old, the old, sneering at the new, and still both of them blending and combining in practice. Mallets and punching, annealed and unannealed gold, plastics, coppered and non-coppered amalgams, yet in spite of all the teeth go to the dogs, or to the forceps, and artificial teeth are the last refuge of the majority of dentists. There is yet a great deal to learn about teeth and their preservation. The older we grow and the more we learn from experience, the less we find we really do know. We occasionally see a young dentist just fledged from college who really assumes to know it all.

Cotton waste holder, to make: Take a deep glass or porcelain box, such as a tooth-powder box. Cut two slits in the top of the metal screw cover, in the form of a cross, one inch or a little more in length; press down the four points into the box; the slits will catch the cotton and pull it off the plyers or excavator. By putting in a piece of sheet lead cemented to the bottom or a little shot to weight it, every dentist may make himself a very handy little receptacle for bits of waste cotton, bibulous paper, etc., without taking off with his fingers. It is always clean, easily made and self-acting.

Dr. Abbott says that he considers the preservation of exposed pulps one of the greatest achievements of modern dental surgery.

In 1850 there were only two kinds of base plates in use—silver for temporary and gold for permanent.

Copper amalgam is very useful for many things in dentistry, besides filling teeth. It may be used for fastening a tooth on a rubber plate, making a full crown for back molars, making matrices for striking up a gold cusp or articulating surface for a gold crown, strengthening or reinforcing plaster models, cusps or any part of the gums or root of a tooth, or a whole tooth may be readily built up in the impression before running the plaster into it. This is often very useful when it is necessary to fit a gold or platinum band round a tooth or root, as the amalgam tooth is quite hard enough to burnish on, while the plaster tooth is frail and would be broken. The amalgam can all be saved and used over and over again.

Dr. Putnam claims to have been the first dentist to ever use a vulcanizer in making teeth.

Statistics show that there are more first molars lost than bicuspids. Dentists then as a rule should take out the molar in preference to a bicuspid, except in extreme cases.

To avoid breaking blocks, when vulcanizing, grind the tops square and don't let the rubber come over them ; in waxing up the case scrape off the wax level with the face of gum, then when the rubber shrinks it will draw over the square ground surface without cracking the thin porcelain. I learned this from casting aluminum, the smallest overlap anywhere, when using this metal, will result in fracture. Another caution is not to have any air-bubbles in the plaster at the back of the gum, and be careful when pressing the flasks together to give the rubber sufficient time to spread and adapt itself over the matrix left by the wax. Broken blocks are the result of either carelessness or ignorance.

Registering Operations.

By H. H. Way, D.D.S., L.D.S., St. Thomas, Ont.

Under the heading of "An Improved Dental Ledger," in the December *Quarterly Circular*, Dr. Bryan enumerates some of the advantages of making "a simple and full record of daily operations for regular patients."

From the very first of my practice, eighteen years ago, I began recording but the date and location of all fillings inserted, and from time to time improved thereon, until now, when I find it of more importance than ever.

It is not alone a matter of self-protection against designing persons, as to the doing of our own or others' work over again without recompense, but some system of registered operations becomes, in due time, still another means of educating ourselves up in any branch of work we like.

Probably most of those already in full practice will think of the extra time required, but if they will but consider that it is for the future—is very quickly noted down with pencil for the time being—the habit will be readily formed, and becomes a portion of the operation itself. We come to love our chosen profession the more when striving to improve on our past labors, but to do this we must have facilities of referring back in any given instance.

I dare say all dentists have at times felt the lack of some past record in particular cases that come up again for attention, and

would give much to again refer to even brief facts of the case, but are now forgotten. They cannot be purchased with money, or had of anyone else.

These considerations are especially commended to young men starting out in their careers; at the very outstart to begin with some form of keeping track of past work.

It will be apparent that the system below given is yet open to improvement; it is simply offered as one now in use.

An appointment book, journal and ledger are needed.

For the first-named, I much prefer one with three days to a page, so that as it lays open before me, the full week's work is in view. For compactness of space, I like best one having for each day a straight and narrow illustration of the teeth, much as a double full set of plain teeth lay upon the wax. The various operations are accurately outlined on these diagrams, and each numbered to tally with the hour opposite the patient's name below; a note may be also made of amount charged.

If so preferred, the journal can be dispensed with, and at leisure the important work posted into the registering ledger, using, of course, an independent set of numerals for each patient.

By having a good rubber stamp diagram and red ink pad, two or more individual accounts, as needed to a page, may be had, thus utilizing ledger space, and ledgers fill up only too soon. When desiring to keep trace of certain peculiarities of a case, a numbered note is made on fly-leaf at back of the ledger itself for future convenience. These I have found come to be valuable in future developments that occur. To curtail amount of writing, any given note answers for all like cases. Even by this device to shorten, I have, in the space of six years, made more than 200 distinct notes, and still find occasion to add others now and then. Be careful to preserve all old appointment books, for they too will be wanted, as you will find.

But it is preferable to have the journal for all entries, and I believe it will stand in the courts over that of any appointment book record; and again, it obviates the need alone of a separate book of daily cash receipts. In this connection, however, a careful record of office disbursements should not be forgotten for balancing up at end of each year. You must know at all times how the net receipts are running, and watch them as you would the ther-

mometer for the weather. This, too, can be made a feature of considerable interest, by arranging the names of the months down the left side of a broad sheet, and the years across the top margin, and then at the close of each month entering the cash receipts thereon. After several full years are filled up, begin at the bottom of the first year and trace a red line, representing that year's total amount, on through the succeeding years—you are ever pleased to see it rising through the record of months. Then, by-and-bye, your aspirations are in a degree chilled when the same line drops a little, as it sometimes must, in succeeding years. However, it is an object lesson, which we are the most interested in.

I feel that there is ample room for a further development in dental book-keeping, and believe it worthy of still further thought than has yet been given it.

The Cast Filling.

By Oliver Martin, L.D.S., Ottawa, Ont.

For some reasons the porcelain filling has been called plastic filling. It appears more reasonable to call it porcelain filling, as a plastic filling has reference to soft substances, when placed in the teeth, as the many amalgams in use. The porcelain filling is cast, or moulded, baked before it is placed in the cavity ; the process has been explained, but I wish to simplify it, so as to place it in the laboratory of every dentist. When you have not the material for the purpose, take a piece of fine earthen-ware, such as a cup, grind it as fine as flour between two flat-irons, make a paste with water. You now wish to test the strength of your porcelain, dry it on your stove, take a clean crucible of small size; this is your furnace. If you place it inside of a sheet-iron cylinder it will retain the heat better. Place the crucible on its side in the cylinder, which is also on its side, place the porcelain in the crucible ; being on its side, gives you surface enough for three or four fillings, then use the blow-pipe ; in a few moments your filling is brought to a red heat, which is sufficient to unite the particles together. Care should be taken not to bring the filling to a white heat, as it renders it brittle. If the stone-ware is of sufficient strength no other ingredient will be necessary, but should it prove otherways, use one-third of ground

glass, mix the two flours well together in the dry state ; this will give you a strong porcelain when baked, but not fused. The process of moulding and casting is so well-known that it needs no repetition ; if your plaster mould is not sufficiently strong to press you paste firmly together, make a mould of zinc, as much depends on the firmness of your paste to make strong porcelain. The adjustment of a porcelain filling should be done before it is cemented in the tooth, by placing it in position and testing the articulation of its contour, as it may project too much beyond the walls of the cavity. Here skilful grinding comes into play, as a want of judgment will spoil the filling. It requires skill and practice to fill a cavity with porcelain, so as to appear like the tooth. The coloring of the flour with chrome yellow and other unfusable earths of different shades, is more difficult of adjustment than the cast gold filling. The gold can be malletted with a fine point plugger after it is secured in the cavity so as to spread the surface of the gold over the cement (provided twenty-two gold is used), to the walls of the cavity. This cannot be done with porcelain. Why? Greater nicety of adjustment is required. The use of a screw to retain the filling in position is superior to the pin cemented, as it binds it to the walls of the cavity with a pressure that does not give away. When you mould your porcelain filling, place a pin in position in the mould the size the screw is intended to be; this will be according to the size of the filling, so as not to weaken it. When the paste is dry, draw the pin out gently, with a slight turning motion. This being successful, the filling nicely adjusted in the cavity (we pass over the baking, etc.), take a drill that will pass in the hole of the filling freely, and drill into the tooth for a few threads of the screw. The length of the screw is taken, take a gold wire the size of your drill, drill a hole into a small piece of thick gold plate and solder your wire to it, this will form a nice head to your screw when finished. Be sure the screw does not bind in the hole of the hard filling, else there is danger of forcing the filling in two. When the screw has been cut the length to bind the filling firmly, place a washer of two or three folds of gold foil to cushion the head of the screw on the filling, this is afterwards trimmed. A tooth can be filled with soft gold foil that will fill every pit of the cavity. When the porcelain filling is pressed in and held by the screw, allowing the foil to project beyond the walls for a good finish, very nice work can

be done in this way, still I would give gold the preference for small size fillings. A large porcelain filling can be managed very well, like a crown, but gold will allow you more manipulation. Placing porcelain crowns on teeth is not new, it is the same as the pivot tooth which has been in use many years, the improvements that have been made are the placing of crowns on any tooth, or roots, partial or entire. Harris speaks of porcelain crowns, if I remember correctly, twelve years ago; but we have, in the dental profession, many young practitioners who are apt to grasp at every new, and overlook many important and good points of the past, unless they are brought forward occasionally in the journals of the day. Apart from this a few steps in advance are made as regards the method of manipulation, material used, that proves itself superior to an old method. By simplifying it brings it anew before the dentists of the day, and is not a mere repetition.

Since writing, I received a letter from Dr. C. H. Land, of Detroit, who claims to be the originator of the system of casting filling crowns, from all kinds of material. He may be what he states, I will not argue this point; but, if so, he does not appear to thank me for advertising his claim, and bringing it before the dentists of Canada who may not have seen his pamphlet. Still there are points in what has been stated that may be of benefit to Dr. Land, if it was nothing else than the use of plumbago as a mould for fine castings, as it is far superior to sand, as its atoms are flat, while those of sand are round and cannot take as fine an impression, nor will it pack as closely. To use plumbago for the zinc, will be found much superior to sand. I stated that a little plaster would make the mould stronger, but it is not absolutely necessary, if you use a flask. The finest castings can be made with plumbago, and it is capable of being used over and over again, by crushing and sifting afterwards.

The Cast Crowns, and the Swedged or Capped Crowns.

To continue these remarks on this style of work may give some new ideas. If not altogether original there are always a few points in advance, what the dentists are looking for. We cannot speak of a method for saving teeth or to supply their loss without a repetition of an old subject, but to speak of it is to keep it young. There is no doubt that the cast crown is superior to the cap, in gold work,

when a root is projecting a few lines above the gums. The cap is made to fit round it like a clasp, and the cement fills the imperfect adaptation of the two hard bodies. This can be accomplished with the cast crown when an impression is taken of the root, and a cast from that impression. The adaptation of these two hard bodies is more perfect than can be produced by swedging, owing to the spring in the gold plate. But a gold crown of solid gold is expensive, and the appearance of gold in the mouth is liked by the majority of people; they would not like the appearance of tin if it were as good. For this reason the dentist is obliged to conform himself to the pocket and taste of his patient. The cap has become very popular and I believe the majority of dentists practise it. There is a difficulty in swedging a cap an inch long by a quarter of an inch in diameter to form a bicuspid, and even a molar is difficult to swedge from one plate of gold. To do this the gold requires to be very fine, like the No. 1 gold used as a plate for finishing fillings. A little heavier plate can be used with this gold. An incisor cap can be swedged from one piece of plate ; by annealling frequently, it will stretch without breaking. For durability a cutting edge cap can be stamped from the same, dry and soldered ; this makes a very nice piece of work. When the gold is not as fine the size of your tooth model is taken and a ferrule is made a little smaller than the model and soldered. The cap is afterwards soldered on the ferrule, the edge of the cap being trimmed to the ferrule, and the solder finished on the ferrule, it is ready for the swedge, being careful to anneal frequently and not to stamp at one great blow, but by gradual taps. In this manner the form of a gold tooth can be produced. The die can be made of cast iron, if the zinc will not stand the cutting edge of the incisor. In a crucible place small pieces of iron ; when melted add one-half of iron pyrites, this will run very fine and makes a good die. Place in the sand with a ring, pour zinc round it to give it weight. The concave die can be made of zinc or type metal. With skill a nicely formed tooth from the impression, and strength can be gained by placing a wire in the impression which is held by the plaster, and will hold the additional plaster that is to be formed as a tooth. The filling of the cap tooth with the white cements is very good, but to pack it with rubber and pressing the soft rubber on the cast of the root, and vulcanizing it there, gives a perfect adaptation and

a stronger tooth. The advantage of this packing is that holes can be drilled into the hard rubber and pins screwed into it, they can be cemented to the roots. The wire pins should not be too large, but so they will bend with the form of the canal. They will hold the crown firmer by conforming themselves into the shape of the root canal than if the root canals are drilled straight to receive a straight pin, and the root is not weakened. As before stated, a porcelain crown is very natural, but it is delicate; this makes it difficult to control. Many are broken when on the point of finish, and the dentist is discouraged. A method that will overcome this difficulty, is to cast your tooth of iron; iron will melt in the crucible as readily as fine gold, and let it be understood that there is no metal more wholesome in the mouth than iron; any decomposition of the iron in the mouth strengthens the blood. That a small ball of iron held in the mouth from day to day for a time, the weak person will gain strength. These remarks are made on account of the oversight that might be made as regards iron in the mouth. We will say your iron tooth is cast, the holes drilled for the pins, it is all fitted, it has been tried in its position in the mouth, the form is satisfactory, it is now ready for the enamel. Melt glass in a clean crusible; when melted add one-half the quantity of glass used of cobalt, this will give you a beautiful enamel that can be tinted with any metallic oxyde. When all is ready, the enamel in the fused state in the crucible, dip your iron crown into it, and you will have an iron tooth that will be as natural as any porcelain tooth, with all the strength the dentist can desire, that can be drilled into, without danger of breaking, for pins and screws to hold it in position. The thickness of the enamel can be produced by repeated dipping.

Legislation.

Funny Legislation.

Reported by H. JACKSON, Quebec.

The following is the last specimen of the sort of people with whom the Dental Board of Quebec has had occasionally to deal;

and it may be said, that if constant "practice" in litigation and dental legislation were to qualify men to practise law, some of the members of the Quebec Dental Board would receive the legal degree.

Private Bill.

"An Act authorizing Didier Garneau, student of dentistry, to practise in the Province of Quebec by shortening the period of his term of study and indenture for reason of his advanced age and previous experience.

Whereas Didier Garneau, of the city of Montreal, has, by his petition, represented that for the most part of the last nine years he has studied and practised dental surgery, and that having passed the matriculation examination required before entering upon the study of dentistry and that having entered upon the study he was indentured, and made the study required by the dental association during the first half of his indenture, for which he holds a diploma from the School of Medicine and Surgery of Montreal, and that the present bill has been approved by the council or board of dentists ;

And whereas it is expedient to grant his said petition ; Therefore, Her Majesty, by and with the advice and consent of the Legislature of Quebec, enacts as follows :

1. The Dental Association of the Province of Quebec is hereby authorized, through its proper officers to grant the said Didier Garneau a certificate as a licentiate dental surgeon of this Province, admitting him as a member of the said dental association and to all the rights and privileges enjoyed by the members thereof.

Should the said association refuse or neglect to deliver to the said Didier Garneau, within one month after demand had been duly made for such certificate, then and in that case the said Didier Garneau may thereafter practise dental surgery in the Province of Quebec as fully and as legally as if he was a member of such dental association.

2. The present Act shall not effect pending cases and shall come into force on the day of its sanction."

Every possible misrepresentation was made by the applicant to the press, and to every individual member of the Legislature ; the ingenious party settled in Quebec city for the express purpose of lobbying ; he had printed statements circulated to the members, and had induced a large number of respectable physicians of Montreal to sign his petition to the Legislature to be made a dentist by Act of Parliament. One of his several attorneys offered a bet of fifty dollars to one that the Private Bill would be secured.

The Dental Board issued in English and French a counter-

petition to the Private Bills committee and to the Legislature, and Dr. Beers, the President of the Board; Dr. Ed. Casgrain, of Quebec, Vice-President, and Dr. S. Globensky, Treasurer, went to Quebec, and found, as usual, that the members had been deluged with false statements. Drs. Casgrain and Globensky used their persuasive powers and experience with the French members and astonished them by the extent of the petitioner Garneau's misrepresentations.

When the Bill came before the committee, the attorney of the Board briefly introduced Dr. Beers, who, in eight minutes demolished the prospects of the petitioner by producing proof,

1. That for most of the "nine years" claimed, the party had been a paid employee in two commercial firms, and an advertising agent of four different newspapers!

2. The indenture proof that of the four years' studentship required, the party had only passed one year!

3. That the School of Medicine and Surgery of Montreal had not granted him a "diploma," but simply the ordinary tickets for one course of lectures on anatomy, physiology, chemistry and materia medica, and that even the examination for such was made special and not in the regular form!

4. That the Bill was not "approved by the Board of Dentists!"

Dr. Beers produced certified and sealed proofs of these and other facts, and moreover, copies of two convictions against the party before the Police Court for practising illegally!

"Do you mean to say," inquired Attorney-General Casgrain of the President of the Board, "that these statements of Mr. Garneau in his Bill are false, that he has not the approval of the Board, etc.?" "I mean to say," was the reply, "that they are deliberate and premeditated falsehoods!"

"Is Mr. Garneau present?" asked Mr. Cook, M.P.P. The gentleman arose with a face as bland as if a seraph sat on each shoulder. "Mr. Garneau, is it possible that your statements in your Bill about having the approval of the Board are not true?" said Mr. Cook. "Well," responded this specimen of truth-telling, "*they are not true*, but I had to put them in my Bill to get them before the Legislature!"

Nobody called him a truth-teller. But the committee unanimously and indignantly threw out the Bill, without waiting to hear the attorney of the Board argue the distinctively legal points of the question.

The demand for incessant watchfulness must make the position of a member of the Quebec Board no sinécure, and it can be no personal pleasure to the officials to play the role of detectives, prosecutors and examiners all in one. It is however a duty most urgently demanded in Quebec more than in any other Province of the Dominion.

Ontario Dental Society.

The fourth annual meeting of the above society, will be held in the city of Toronto, Tuesday, Wednesday and Thursday, July 19th, 20th and 21st; convening promptly at two o'clock in the afternoon of the first day.

The programme in preparation promises to be one that should interest every progressive dentist in the province.

Essays will be read by the following well known members of the profession:

G. H. WEAGANT, L.D.S., Cornwall—Copper Amalgam.

M. G. MCELHINNEY, D.D.S., Ottawa—Electricity; its application to Dentistry.

W. GEO. BEERS, L.D.S., Montreal—Notes on Alveolar Abscess.

N. PEARSON, L.D.S., Toronto—A plea for the preservation of the natural teeth.

JAS. STIRTON, D.D.S., Guelph—Diagnosis of the diseases of the teeth.

C. N. JOHNSON, D.D.S., Chicago—Incidents of office practice.

Also, clinics have been arranged for demonstrating the more advanced operations.

You are notified at this early date, that you may regulate your time in advance.

The official programme will be issued about July 1st.

May 30th, 1892. R. G. MCLAUGHLIN, Secretary.

Selections.

The Dentist's Hygiene.

Read before the American Dental Society of Europe, at Heidelberg, August, 1891.

By E. DE TREY, D.D.S., Basel, Switzerland.

GENTLEMEN,—I do not remember meeting with any treatise bearing directly on the subject of the *dentist's own hygiene*, though there are several bearing upon dental hygiene. This is certainly a very important question. The loss of health too often incurred by the long-continued practice of dentistry is a sad proof of the necessity of this article. The dentist must keep his health for his own sake and that of his clients'. Operating from day to day produces a heavy strain on the vital forces, and induces great nervous tension in the operator.

What a pity to see a man practising his art under unfavorable conditions!

The digestive and respiratory organs suffer from the abnormal position of the body ; the nervous system continually strained, like the cord of a bent bow, ceases at last to perform its functions, and finally the operator tires of his vocation, while his work loses its former excellence.

It is only by wisely regulating the details of his life that the practitioner can attain clear and intelligent conceptions, rapid and easy execution, as well as find pleasure in the performance of his duties. Long is the list of men engaged in intellectual or manual pursuits who, by neglecting the laws of hygiene, have seen their strength decline, and, cut down prematurely, they have not fulfilled the hopes entertained of them, nor furnished that career which they themselves had traced out.

This abstract is offered only to the serious members of our profession, and not to those whose ignorance and incapacity lower and degrade it to the level of charlatanism. I shall attempt to perform my task as well as I can, and as far as an experience of twenty-three years will enable me.

To practise dentistry it is necessary to have good health and a strong constitution, plenty of muscular force, and an active, nervous temperament, because a phlegmatic man can never make a good operator. By means of hygiene, it is not only possible to keep one's self up to the mark, but also to make up for one's deficiencies, in the one case by a careful diet and healthy habits, and in the other by a painstaking and methodical manner of operating.

The questions of situation, light, ventilation, and heating are all important ones to the dentist's health. Considering that he has to pass a great part of his time in-doors, a gay and sunny apartment will have a beneficial effect on his character. The operating-room must be so separated from the waiting-room that the cries, groans, or conversation of the patient cannot be overheard. The proximity of the two would distract the operator, and increase his nervous tension, which is bad for all concerned.

The laboratory must also be at some distance from the operating-room, without being out of reach. An equable temperature must reign in the different rooms, because the operator is likely to cool down quickly after heavy work. The temperature ought to be about 20° C. He who works in-doors requires a higher temperature than he who works out of doors ; the latter takes more exercise, and the natural heat thus developed is increased by more abundant feeding. On the other hand, overheated air draws the blood to the brain, where it is always attracted by intellectual effort. The temperature must be constant, else the operator, absorbed in his work, may not notice its variations. The operating-chair should not be too near the fire. Moreover, as much as possible, let the windows remain open, as fresh air is highly beneficial to health. An open chimney with a wood fire is best in the oper-

ating-room, because this system constantly renews the air; a stove will do for the rest of the apartment. A northern light is best for the sight, on account of its steadiness; and western light is less blinding than an eastern one. The most valuable operating is done in the morning hours, when the body has been refreshed with sleep. A southern light is bad on account of its unsteadiness and the heat from the sun's rays. If the light is reverberated by a sheet of water below the window it becomes very vacillating. A blind working upward will greatly lessen this evil, which is very prejudicial to the sight.

The dentist practising in a dark street, or in a misty country such as England, will find a white blind working from below upward very useful.

In choosing an operating-room, attention must be given to the size, and especially to the height of the windows, as well as to the size of the room, which ought to be spacious. It is easy to understand that plenty of air and light conduce to better work than a restricted amount of these.

A continual subject of discussion is the point whether the dentist's residence should be at or away from the spot of his labors. The author has tried both plans. Keeping up separate apartments is expensive, but a counterbalancing benefit is the necessity of walking to and fro, and thus getting needful exercise and a change of ideas. The practitioner who simply leaves his operating-room to pass into an adjoining one for his meals, is liable to lose his appetite, get enervated and cross, and his food will not profit him as it should. If he be not forced to take out-door exercise, he will often become neglectful of it, and the less he takes, the less he will wish to take. Patients knowing that a man resides where he practises will often insist on seeing him just for a moment at undue times and in spite of orders against their admission. The combination of residence and office is useful for saving time, for easier work and study during the winter evenings. On the other hand, the dentist is thus more easily distracted by the ties of family life. All things considered, the author is of opinion that the advantages of enforced exercise ought to overrule all other consideration. Great cleanliness must reign all over the apartment. The laboratory should have a chimney to carry off all acid and vulcanizing smells and vapors, which rust and corrode metal substances lying around. For the same reason, the apartment must be well ventilated morning and evening. In short, he who takes pride and pleasure in his calling will have an inviting, comfortable, and even stylish interior, so as to please clients, and even draw compliments from them.

The operator must be very careful about his personal appearance; he must have a special working-coat or jacket, to avoid carrying with him tobacco and other odors. A white, easy-fitting garment is desirable. In winter a warm Jæger coat is practical,

though the best thing is white cloth or smooth silk, which both look and feel clean and neat. Black coats easily become greasy by contact with the patient's hair, or soiled by the cosmetics which ladies sometimes use.

It is difficult to lay too much stress on these niceties, which are much appreciated by the better class of clients, and the observance of which tends to build a good practice. Footwear must be soft and warm in winter, light and fresh in summer; special pairs being kept for exclusive use in the dental office. A low shoe of good calf, flannel, or fur, lined, is best in cold weather. Prolonged standing is fatiguing, therefore the dentist should have his feet easy and comfortable. A warm foot-bath after the day's work is over is often beneficial, for it promotes the circulation and relaxes the nerves Intellectual effort draws the blood to the head, and the feet get cold in consequence, a thing to be avoided, as warm feet and a coo head insure good digestion.

Those who perspire freely from the feet should change socks once or twice a day. The writer would here remark that he has known two cases in which, perspiration having been artificially stopped, a dangerous illness was the result, followed by death. Elastic boots are apt to stop circulation, but low shoes allow the escape of heat and moisture, and are not conducive to cold feet.

The old saying of warm feet, cool head, and loose waist is to be remembered and practised. The neck also should be free, without a high or narrow collar. The pressure of a hard collar on the veins of the neck during the various flections of the head brings on congestion of the brain; and this is very bad in the case of thick-necked men with apoplectic tendencies. A fine white flannel, with loose silk tie, would be best, if etiquette allowed it.

A dentist must have perfectly clean and well-kept hands, with nails not too long. Patients have complained to us of having been scratched by too long nails, and one lovely client made us once pare our nails on the spot. Yet it is necessary to keep those of the thumb and forefinger long enough to pick up quickly the various little implements in daily use. Another point is, that an operator should not in general use too highly scented soap; in fact, exceptional cases apart, scent of any kind is out of place. The hands should be washed in the patient's presence, and every time the dentist is called out of his room.

When hands and arms begin to feel nervous twitchings, the best thing is to plunge them up to the elbow in lukewarm water. Should there be tension, congestion, or weariness of the brain, a cold bath will act very well. The handling of steel instruments produces horny fingers, which lose their tactile sensibility. To regain this, rub the fingers on pumice-stone, without taking off too much skin, as a certain amount of hardness is necessary.

Above all, the dentist's own mouth must be in a fit and proper

condition ; a bad breath is sufficient to drive away patients. There are means of rapidly sweetening the breath, but they are unwholesome to the stomach. Here are a few useful ones : Chew a slice of lemon with the rind on ; this will freshen the breath for a fairly long time. The smell of garlic disappears by chewing parsley and swallowing its juice. A few drops of "hypochloride of soda" (liqueur de Labarraque) in half a tumbler of water constitute an effective and powerful deodorizer. The too frequent use of aromatic extracts, such as catechu, cloves, peppermint, etc., may injure the stomach. Catechu, for example, is an astringent which contracts the walls of the stomach, often producing cramps the origin of which is unsuspected. Cloves cauterize the mucous membrane, and deprive it of its smoothness. Generally speaking, all these substances injure the sense of taste. Chewed coffee-beans adhere to the lining of the stomach in noxious deposits. Coffee is an excellent antidote against alkaloids ; a spoonful will mask their smell and annul their effects, used internally or as a gargle. Coffee and milk for breakfast is nutritious, laxative and disinfectant.

The posture of the body whilst operating, as will be shown further on, has considerable influence on the health. It is rare to find a dentist who knows how to place his patient in the chair so as to facilitate his own work and avoid mutual torture. While possessing all necessary means for working with comfort to themselves, why will not dentists take the trouble to put their patients in a position easy for both parties, instead of going through a sort of gymnastics hurtful to the eyes, lungs, and stomach ? The right eye of a dentist who does much gold-filling, after fixing the same brilliant spot for hours, gets tired and becomes weak long before the left one. Deviation of the visual rays is an affection which almost always affects the right eye, and is caused by the ocular globe being twisted away from its normal position, when some muscles are overstrained and others relaxed ; this habit in time dims and weakens the vision. The best and simplest way to avoid this trouble is to so place the patient in the chair as to bring all available light on the point of operation, and to look at it in a straight line, and not from a slanting direction. Also, one must learn to operate on both sides of the patient, and from behind as well as in front. By means of these different positions the visual rays enter squarely into the eye in its normal and unstrained position, and not sideways, and both eyes work equally. These methods of operating are soon learned, and their advantage quickly perceived. Operators will do well to think of the means of preserving their eyesight while still young, before becoming slaves to spectacles. Their usage is a source of annoyance to the practitioner, because the patient's breath clouds them, causing loss of time in removing and wiping. A good magnifying-glass should always be at hand, to avoid straining the sight looking at small objects, such as burr-heads,

for instance. Blue glasses are good for softening glare and change of light. The means of bettering the sight when it begins to fail are numerous, but the simplest and best are rest and refreshing sleep, such as hygiene and exercise produce ; reading at night, indulgence in alcohol and tobacco must be given up. Electric, petroleum, and all lamps with too powerful a glare are to be avoided; the old moderator lamps are the best. Few organs of the body are so sensitive to the diseases of the stomach as the eyes. Dimmed and vacillating vision, pain behind the eyeballs, watering eyes are almost always symptoms of a disordered stomach. Rose or chamomile water makes an excellent eyewash ; an infusion of rosemary in good cognac brandy is good for frictions around the orbit, the brow, temples, and neck. As a rule, let us not turn night into day, but, returning to the ways of our forefathers, go to bed and rise early. They knew not the use of spectacles before old age, nor did they need the various exciting modern condiments.

In the course of numerous excursions in the Alps, the author has made some curious observations on the changes going on in the country at large. With the advent of coffee, sugar, spices, and alcohol in the most secluded valleys, the hitherto vigorous and healthy inhabitants have begun to loose their fine teeth and flowing hair. All sorts of infirmities, unknown before, have appeared among these hardy mountaineers. The author is quite convinced that this is due to alterations of the blood, brought about by exciting foods Let us leave hot things to hot lands, and cling to what nature grows in our temperate zones. The first effect of these stimulants seems to be renewed life, vigor, and keenness, but their continued use brings in time prostration and even loss of health. Such is also the case with plants transferred from their own natural soil into a richer one. They thrive, increase in size and beauty, then droop and die away. Nervous diseases and folly count more victims nowadays than formerly in town or country, thanks to bodily and mental excitement and fast living. Let us work quietly day by day, not peering too far ahead into the future. Thus, money will be more slowly acquired, but the faculty of enjoying it in old age will be preserved. On hygiene depends the surety and suppleness of the hand, the clear vision of the eye, and on these does the dentist himself rely. Delicacy of touch is a gift, which can be developed, but not acquired ; few possess it, and those who do should not imperil it by excess of any kind. It can be cultivated from infancy and maintained through life by manual exercises. This attribute can be unconsciously lost by excesses. The abuse of wines, spirits, and tobacco leads to that of narcotics, which doctors and dentists have within their reach. We cannot enough warn operators against being tempted to their use to soothe wearied nerves, for no human words can tell the sufferings to be encountered before the habit is broken. Unfortunately,

numbers of medical and dental men use these drugs themselves, though they forbid them to their patients. Here are the words of a specialist in nervous and mental diseases, Dr. Forel, of Zurich : "How great a number of men are lost to science by the use of alcohol! Even what is called a moderate amount is sufficient in time to alter the tissues and weaken the mental faculties." Total abstinence is more profitable than simple temperance. If the thoughts and actions are not so quick, they are all the more reliable ; fatigue and ailments have less hold on the total abstainer.

The strength and suppleness of the hand depend on that of the body. All exercises of sport and gymnastics, abundant in youth, more moderate in manhood, are a boon to the body. Combine these with hydrotherapeutics, and you have the secret of good health and good humor, wherewith to perform daily work easily and pleasantly.

Half an hour should be given every morning to bedroom gymnastics on the Swedish system, adding cold or tepid baths according to individual natures, or simply sponging the upper part of the body. These exercises must be done slowly, and in a measured way, not with rapid and unsystematic movements. To undergo a hydrotherapeutic cure in a first-class establishment is for a run-down and overworked dentist the best means of recovering health and condition. Unfortunately, these good establishments are by no means common, and we only know one, that of "Schœnbrunn," in the Canton of Zug, where the basis of the treatment consists in the avoidance of all stimulants, as alcohol, tea, coffee, pepper, spices, etc.

The dentist must not only exercise his arms and legs, but his wrists and fingers separately. It may happen that he who has not been in the habit of practising gymnastics from infancy may feel tired at first ; the best plan is, then, to exercise for four or five minutes in the beginning, gradually increasing the length of the periods up to one-quarter of an hour. Frictions with rosemary and spirits strengthen and keep up the suppleness of the arms ; not to mention that this old remedy is good for rheumatism. Finally, the best way to counteract the effects of a too sedentary life is to take all possible exercise between working hours.

What one should eat is a subject of some importance, and it is to be supposed that every one knows best what suits him, yet such is not the case. A fair meal after morning exercise is necessary to do four hours' work, and a light mid-day lunch is better than a full dinner, which makes one feel heavy and lazy. Owing to bodily fatigue and nervous tension, the dentist is at times liable to a sensation of weakness and loss of energy ; this is due to a momentary lack of nourishing substances. Here Hygiene steps in and says, Stop and replenish the motor ; or, in other words, take some light food, whereupon the sinking sensation will disappear. A drop of soup about ten o'clock, a cup of tea and a biscuit about four, is all

that is needed to revive the flagging energy of body and mind. The general appetite for regular meals will in no ways be injured by this habit, which is a national custom in several countries, chiefly in the North. This plan helps to avoid excess at any one time. For those men who are obliged to subject their bodies to postures which prevent the free play of the internal organs, frequent and spare meals will help to facilitate easy digestion. Plenty of milk is an excellent means of calming nervous irritation.

Sleep is the chief factor in general and dental well-being. Loss of sleep means loss of strength ; no sleep, no work. By a hygienic mode of life the act of sleeping becomes a source of pleasure, a delicious close to the day's work.

To obtain deep, calm sleep, without dreams or nightmare, total abstinence, or, at least, a very limited use of alcoholic stimulants, must be the rule Less noxious but still powerful stimulants, such as tea and coffee, must be avoided as the night-hours draw on.

But contentment of mind comes not only from a hygienic life, but from a feeling of confidence in the future, and where this source of trustfulness is to be found, you all know. If I here enter the domain of moral and intellectual hygiene, it is because I have convinced myself of its power on the nervous functions. The sentiment of religious duties performed sincerely is an elixir without a rival, and an efficient soporific. There is the secret of a contented and happy life. As meals should take place with regularity, so should sleeping hours be regular.

We would utter a warning-cry as to the necessity of timely relaxation from continuous toil, to all those who are carried away by duty, love of work or money, and who labor on for years without taking the necessary holiday. As soon as the dentist takes stimulants to keep up his flagging strength, he is overstepping the limit and working too hard. Each practitioner has, according to his strength, a limited number of years before him. Therefore, let every one starting in the profession understand before it is too late that he must make his position more or less rapidly ; for few vocations entail so much fatigue, wear and tear, as genuine and artistic dentistry.—*International Dental Journal, Philadelphia.*

On the Management of Patients

A paper read before the Students' Society, Dental Hospital of London.

By George Northcroft.

Mr. President and Gentlemen,—Although, sir, in your inaugural address you expressed a hope that you might hear really scientific papers read in this society, I fear I shall have to leave

that hope unfulfilled as far as I am concerned, for it was my misfortune to choose a subject before I had the pleasure of hearing that admirable address.

But although I cannot claim that my paper is strictly scientific, I hope it will be of such practical value as to provide for its lack of technicality.

Of course it goes without saying that every student trained here is fully alive to the importance of doing absolutely good work; no man can in the end expect to be successful who does not keep constantly before him the highest ideal of his profession; for, as Emerson says, "Our own safety lies in having lofty ideals, and in constant labor to secure their realization."

You may reply to this, "We do not want to labor for the realization of ideals, but for hard cash." I venture to think, if one works in this sordid spirit, the capacity for doing the best becomes atrophied, and eventually one loses even one's mess of pottage, for which has been bartered the standard of right.

Where would have been any chance of earning money in our profession to-day, had it not been for those noble men, who in former days worshipped ideals and freely gave their lives for Science?

I would not weary you, but I think, considering how absolutely our patients are in our hands, we ought to consider well our responsibility, not only to them, but to the best traditions of our profession. It lies with us, who are now students, whether in the next generation dentistry ranks equally with medicine, as a profession for gentlemen, or sinks to the level of a trade only to be practised by empirics and mountebanks. Personally, I am convinced—"how far high failure overleaps the bounds of low successes," and I hope however great my anxiety to make money, I shall never forget what I owe to myself as a gentleman and a member of the dental profession. But I am not here to-night to "magnify my office," but to discuss the management of patients.

Generally speaking, it is just as well to remember that, having finished the "demonstration" stage, we have also finished working on blocks of ivory, and when upstairs are working on human beings with tissues as sensitive, if sometimes not quite so clean, as our own.

If we lose sight of this when dealing with hospital patients, we shall find the Nemesis come home when we start practice for ourselves. A hospital patient has no choice but to grin and bear it, but a private patient finds a hundred doors eagerly opened to receive him, as Sairey Gamp said, "with love and tenderness."

But do not make the fatal mistake that gentleness, like a coat, can be put on and off as occasion requires. It should be the natural attribute of a man in our profession; when it is only veneer laid on for the sake of a fee, the inevitable result must be nervousness, awkwardness and bad work.

It is of infinite value to a dentist to have quick perceptions and

a keen insight into human nature, for patients are not *only* human beings, but individuals, and one must see in a flash the best way to deal with each case. A well-bred ease of manner is always reassuring. To preserve a solemn silence during the preliminary stages of the operation gives a funereal tone to the proceedings that forces the patient's heart into his boots.

On the other hand to keep up a jaunty and familiar chatter to a comparative stranger may inspire him with a disgust that will barely allow him to remain in his chair. It is most unseemly to be continually talking while our patients are in pain, and nothing is so aggravating, and makes a patient so little inclined to "suffer and be strong," as an operator who keeps up a ceaseless flow of irritating commonplaces, and asks questions, any reply to which the rubber effectually prevents.

"Nothing so tends to alienate friendship as a difference of taste in jokes;" and it is possible that a dentist, while imagining himself particularly agreeable or particularly witty, may be sowing in the patient's mind seeds of fatal distrust in his conscientiousness and skill.

Cases may be easily recalled where men of the highest position in our ranks, from their grasp of professional technique, have made the most unfortunate failures from want of *savoir faire*. The converse of this is also to be met with; men, unhappily inferior operators, conduct immense practises and make large fortunes simply by trading on their accurate knowledge of human nature.

The best way to secure a patient's confidence, that element indispensable to success, is to be perfectly natural. Let him see that you know what you are about, but do not think it necessary to give verbal information on that point. If he believes in you it is unnecessary, if he does not it will only make him more suspicious. Explain the character of the operation simply and clearly as far as you think it wise to do so, for fear is more often caused by the anticipated severity of the operation than by actual physical pain; and patients who have confidence in their dentist often suffer more in the reception room than in the chair.

Garrick said, "A fellow feeling makes us wondrous kind," and if dentists were operated on a little more often themselves, they would sympathize much more with the patients under their care. Often a timely word of sympathy will enable a patient to endure bravely, and an assurance from the operator of knowledge of pain given, or a warning of pain to come, will help him to overcome difficulties that would be otherwise insurmountable.

In these days of antiseptic surgery little need be said on the great subject of cleanliness, but we must remember that the patient is very quick to detect and make mental note of the slightest blemish in this respect. I am sure, however, we should never so far forget ourselves or our profession as not to have spotless hands

and instruments, and the only plea for a dentist not doing his own mechanical work is that it ruins the look of his hands, and makes them feel harsh round the patient's mouth.

A word about dress may not be out of place here. It is generally supposed that a *gentleman's* dress is always suitable to the occasion—but I know of some members of our profession who, by appearing in the morning arrayed in evening dress have evoked from the surprised patient the query, "Am I addressing Mr.——?" doubting whether he had entered a dentist's consulting rooms or intruded upon a conjuror about to give a séance; or who, by wearing lounge coats or shooting jackets, create in the mind of the patient an uneasy suspicion that he has fallen into the hands of an amateur artist or a cockney sportsman, instead of into those of a man whose chief devotion is to his profession.

I *have* heard of men who in the surgery wear heavy boots with mud upon them, who bring in with them the odours of the stable, the smoking room or the bar, and whose cuffs and collars are certainly no advertisement for their laundress. But we hope that such occurrences are rather the exception than the rule, and that the recounter of them obtained, as Sheridan said of Mr. Dundas, "his facts from imagination."

Ever bearing in mind the influence of one's surroundings, it is very important to avoid so displaying our instruments and various appliances as to suggest either a chemist's shop or a torture chamber. We should endeavor to keep the atmosphere and surroundings free from suggesting the sufferings of the previous patient, avoiding as far as possible the use of strong smelling drugs, and removing from sight all soiled napkins and rubber. I think it wise to place our cabinets slightly behind the operating chair, and to abstain from the use of mirrors in front of the patients. It is at times very undesirable for our patients to observe our actions, which may be closely followed by the untimely reflection of a piece of glass. If medicine bottles are used on the bracket it is well to make it a rule to turn the label away from the patient. I have seen a patient actually grow nervous at the sight of a bottle labelled "Chloroform," and fearingly ask if she were about to be anæsthetized, when the unobservant operator had no thought beyond smoothing off a G. P. filling.

One cannot be too careful in practise to have one's surgery and waiting room suitably furnished, the appearance of quietly and harmoniously decorated rooms have a wonderfully soothing effect on patients of all temperaments. Neither should the rooms be too luxuriously furnished, for I have heard patients, when speaking of such houses, say that they knew the fees they pay are in direct ratio to the elegance of the appointments. One should not, however go too far to the other extreme, and let the rooms become shabby or show an absence of finish, for then the fact is borne in

on the patient's mind that the dentist cannot be doing a good business, and lacks patronage for want of skill.

Having now considered a few of the important qualifications and defects, the surroundings, both good and bad, that are to be observed in the general conduct of a dental practise, some words may be added on the management applied to individuals of differing age and sex.

Children are perhaps of all the most difficult patients to deal with, as their fear of the unknown and ignorance of the benefits to be derived in the future from the sufferings of the present, lead them to suppose that the pain inflicted is an unnecessary trial grievous to be borne. And an explanation and argument are beyond their mental range, it is only by firmness and great tact that the operator can make them submit to the sufferings they so resent. By raising such bogies as a life embittered by the horrors of dyspepsia, or the unhappiness resultant from a consciousness of an unsightly irregularity (which as years increase may be made the subject of ridicule), it is possible in some cases to influence the young. Promises of rides in the chair or a present of sweetmeats for "being good" may have the desired effect on children of a more sordid temperament.

Cases, however, there are with which only sternness of the most autocratic type will avail anything, but this course, resented alike by mothers and children, is most inadvisable except as a last resort.

The method *par excellence* is to gain the child's affection, and make him trust you. You have doubtless read, and with me admired, the unswerving faith that Porthos possessed in his friends. Have you not observed that its great attractiveness is that it is the ignorant trust of a child rather than the discerning confidence of a calculating man?

But while we make use of this trust for the child's own good, let us beware never to abuse it, for he who robs a child of one atom of his faith in human nature commits a crime more reprehensible than many severely punished by the law.

In dealing with male patients we should remember that to many, however wealthy, "time is money" just as much as it is to us, and too much attention cannot be given to the importance of punctuality if we desire to become successful practitioners.

The ten minutes or so which we carelessly let slip at the commencement of the day is never regained, but rather, like a snowball, gains in size as the hours pass by.

Punctuality may be formed into a habit by constant watchfulness, and by exercising it on our hospital patients we may lay the foundation of an attribute which in after life will prove invaluable.

Nor should we become so entirely absorbed in our profession as to take little more than a passing interest in the outside world. If a man endeavor to converse on a subject he does not understand,

or can only reply in monosyllables to subjects introduced by his patient, he not only suffers himself from that unpleasant sensation of inferiority, but forces his patient to regret having spoken.

By endeavoring to acquire a fund of general information, these mutual *contretemps* will be avoided, and while the works of our hands may be valued, the workings of our minds may not be despised.

The supposition that men are less sensitive to gentle treatment than women is entirely a delusion, as is ably pointed out by Professor Lombroso (in the *Fornightly Review* for this month), who, not content with claiming for them equal sensibility to pain, declares that he has proved by experiment that their sufferings under the dentist's hands are far more intense.

A good story is told of an American who in answer to the sympathetic enquiry of the dentist, "Am I giving you much pain?" replied, "I can stand the pain in my teeth, if you will kindly take the corner of your cuff out of my left eye."

It may have been the same operator who, when burnishing a gold filling was surprised to see large tears coursing down the cheeks of his small patient; on seeking an explanation of the woe which so harassed the youthful soul, he discovered that he was with the hand-piece pressing tightly the boy's lips against his teeth, and was himself the engine to what Sam Weller called "the fellar's waterworks."

In the management of the "eternal enigma," as a recent writer has termed the fair sex, there is so much both to do and to avoid, that I cannot attempt to treat of the subject fully to-night. But a few of the most important points it may be beneficial to touch on.

It is with this class of patients that a cultivated ease of manner and sympathetic bearing weigh so much; it is they who recommend a dentist for his good chair-side manner; it is they who judge of the work done by the bearing of the man who does it.

To be able to reassure a lady patient as soon as she enters the room is a great step gained, and a dentist who realizes this soon reaps the reward of his knowledge.

One of the greatest difficulties a dentist must study to overcome is so to hold his left arm round the patient's head as not to disarrange her hair. It is a thing to which, for obvious reasons, a lady strongly objects, and such awkward incidents as the following—which the relator informed me actually happened in his own practise—may occur.

His patient, a dignified aristocrat, happened at the time of her visit to be wearing a false plait, and in the movement of arm round her head he had the misfortune to detach this artificial appendage. The chagrin of both dentist and patient may be better imagined than described. He never saw her face again.

In the use of perfume in the surgery and on one's hands care

should be taken, not only in the selection of the scent, but in the quantity used. All ladies do not equally appreciate perfumes; to some the odour of scent is scarcely less objectionable than that of drugs.

For those who use such things, it will be found useful to keep a little face powder ready to hand. The rubber often leaves an unsightly redness about the corners of the mouth, and the thoughtful dentist who provides such small comforts is justly popular.

Much may be done by watching the patient's face. It generally betrays the clearest indication of pain received, and by studying it we may ascertain how far it is safe to go without evoking a remonstrance from the patient.

One rule should be zealously observed. Never surprise them. Sudden pain received without previous intimation, is by some treated almost as an insult, and frequently attributed to the ignorance or carelessness of the dentist.

In operations that are likely to prove tedious, painful and expensive, a little appeal to the patient's vanity will enable many ladies to bear a great deal that would without such a suggestion be deemed by them needless.

And now for a few words on those patients whom the young practitioner most dreads—those who are inclining to the sere and yellow leaf. The old are liable to look down on the fresh graduate as an inexperienced intruder, who does not know his business; to underrate his ability, and distrust his progressive inclination.

They annoy him with suggestions and advice; with recollections of what dentistry used to be in the dear old past, as well as sermons on what it should be to-day. There are two ways of dealing with such persons—divert their thoughts by talking of subjects foreign to dentistry, or allow *them* to do all the talking. Let them imagine that you are swayed by their opinion, if necessary even affect to submit your opinion to theirs, but while in appearance you receive advice, in reality follow your own opinion of what is right, never let your judgment be warped by anything the patient might say, for only by so doing can the best work be accomplished. The end will justify the means; the satisfaction of all parties will be realized.

Who knows what strong recommendation may not result from the propitiation of one cantankerous old maid, whilst the easy praises of those more highly favored by capricious Nature may pass unnoticed?

It must ever be the dentist's aim to "be all things to all men," and while we remember the first part of Cromwell's sage advice, and "put our trust in Providence," do not let us forget the important conclusion "*and* keep our powder dry."

Gentlemen, my paper draws to a close, and my pleasure is to thank you for listening so patiently to what I trust will serve as a fingerpost by the way to some, even if it proves a bone of conten-

tion to others. In self-defence I must claim for my paper that it covers such a wide area that it has been impossible to touch on every point, and I can only hope that between the errors of omission and commission there may be ample scope for an interesting discussion.—*Dental Record, London, Eng.*

Editorial.

Dental Societies.

Secretaries of societies in Canada will greatly oblige us by sending early notice of meetings to be held. We have received the following so far :—

1. *Eastern Ontario Dental Association.* 13th annual convention at Hotel Frontenac, Kingston, June 29 and 30, 8 p.m. The resident dentists have tendered the visitors a complimentary sail through the Thousand Isles, and members are a sked to bring their wives and daughters with them. The mayor will give an address of welcome ; there will be an address by Dr. C. A Martin, of Ottawa ; Clinics on Aluminum applied to Dentistry, by Dr. Brace ; on the advantages of Dr. Beacock's furnace in staining and gilding teeth, porcelain, etc., by Dr. Stackhouse ; on Nitrous Oxide, by Dr. Steele, and no less than eleven papers on different subjects. Reduced rates on all railways from June 29 to July 4 inclusive.

2. *Ontario Dental Society.*

3. *American Dental Association.* 32nd annual session will be held at Niagara Falls, N.Y., commencing at 10 a.m., Tuesday, August 2.

Reviews.

Dental Jurisprudence. A treatise for dentists and lawyers, by Wm. F. REHFUSS, D.D.S. Published by the Wilmington Dental Manufacturing Co., 1413 Filbert St., Philadelphia, 1892. Cloth $2.50, sheep $3.50. 468 pages.

"The glorious uncertainty of the law" may have impelled old John Burton to swear at lawyers as "gowned vultures ;" but after all, as Paul said to Timothy, "the law is good if a man use it

lawfully;" and unfortunately, the dental profession has its exposed features, involving the possibility of litigation of an unpleasant, if not of a serious, character, which ought to bring such a work as the above within the lines of dental education. The jurisprudence of dentistry has its applications in many directions, as was pointed out by Dr. Garrison in his contribution to "American System of Dentistry," yet it is doubtful if more than a few practitioners clearly understand their responsibilities to the law, as well as their rights. The subject is really a most important one, and Dr. Rehfuss has created for us a new branch in forensic dentistry, of which no practitioner can well afford to be ignorant. The contents of the work include the various technical liabilities as witnesses and experts, and specially inquires into the legal protection afforded by the degree of D.D.S.; malpractice; standard of skill varies according to the circumstances and localities; specialists, damages, poisoning, injuries and deaths due to anæsthesia, infection of diseases from unclean instruments, rape under anæsthesia, fees, book accounts, etc., etc. The appendix contains a history of dental legislation, and the statutes relating to the practice of dentistry in different countries. Undoubtedly, the curriculum of our colleges will now contain a course on Dental Jurisprudence. We commend the work highly to every practising dentist.

Doctorate Address, delivered by Prof. C. N. Johnson, to the graduating class of '92, Chicago College of Dental Surgery, March 22. An interesting address in which Dr. Johnson scarifies the increasing love of notoriety among a certain class of dentists whose watchword is, "anything to advertise," and who descend to the meanest depths to accomplish their "ambitions." The address is full of brotherly cheer and encouragement for men who aim and act honourably.

Preservation of the Teeth, by J. R. Irish, Trenton, Ont. A letter against the useless extraction of teeth.

1. Non-cohesive half cylinder and loop filling.

2. Articulation of the teeth. By Isaac B. Davenport, M.D., D.D.S., Paris, France. The former is a reprint from the *Cosmos*, the latter from the *International Dental Journal;* both extremely interesting.

Abstracts From The Journals.

Painless Extraction.

If you wish to remove a deciduous tooth and through fear the child will not permit it, slip a piece of rubber tubing over the crown down to the neck of the tooth, and in a few days the tooth

will be so loose that it can be extracted with the fingers. This is given upon the authority of Dr. W. H. Eames, and is certainly worth trying.

Dry Steam Vulcanizers.

Dr. Steele, in the *Items*, suggests a simple plan for converting an ordinary vulcanizer into a dry steam vulcanizer. From heavy sheet zinc he makes a basin-shaped dish about the depth of the flask and about one-fourth of an inch smaller in diameter than the inside of the boiler. This he perforates with holes for the escape of steam and places bottom side up in the boiler with a very little water. By placing the flask on top of the dish, he claims as good results can be obtained as from the use of many of the high priced vulcanizers.

A New Anæsthetic.

The *Ohio Journal of Dental Science* contains the following description of a new anæsthetic: "It is produced in Germany, its inventor being Prof. von Mering, Director of the Medical Polyclinic in Halle, who chose the name "Pental," owing to the circumstance that it contains five carbon atoms. It is very volatile and easily combustible. It can, it is said, be administered exactly like chloroform, and the quantity required each time need cost no more than 6d. Anæsthesia sets in after three or four minutes, rarely later. It is not deep but suffices to render small operations such as the extraction of teeth painless. It is neither accompanied nor followed by any unpleasant effects.

Reading Journals.

"We should not condemn journals because some of the articles are of little value. Much of the thought presented in journals is simply placed on trial, and that which my judgment or the individual judgment of the editor might condemn may prove to be valuable. Many of the better things in literature have been condemned at first reading by learned critics, and have afterwards been recognized by the world as models of thought and expression. Neither should we drop the reading of a journal because a number or two fails to interest us. The next number may contain a single article that will be worth a dozen years' subscription, besides compensation for much uninteresting reading. Anyone who fails to read the journals will be behind, not only in his thought, but also in his practice."—*Dr. Black in Dental Review.*

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Original Communications.

A Plea for the Preservation of the Natural Teeth.

Read before the Ontario Dental Society, Toronto, July, 1892.

By W. PEARSON, L.D.S., Toronto, Ont.

The Committee on Programme have assigned the above subject to me for a paper. Had they asked me to choose a subject for myself, this certainly would not have been the title. It never would have occurred to me that there existed a disposition to remove natural teeth, to the extent that any special pleading in their behalf would be in good taste or called for. That they have done so leads me to think that there is a necessity for something to be said on the subject. Where it exists, why it exists, and to what extent, I am at a loss to determine. There may be a few, one or two, perhaps a score of dental surgeons in Ontario who need reconstructing. That there are many I do not believe. In all learned professions there will be found some, whose interpretation of the meaning of a word or the sense of a phrase is very different from the generally accepted idea. So we may have those among us who do not exactly grasp the meaning of the word dentistry, more particularly the symbolic combinations of L.D.S., D.D.S., or M.D.S.

That there should at the present day appear to be a necessity,

that there should exist an idea of the necessity for a plea for the preservation of natural teeth at this stage of professional progress, is to abandon the whole status and retrograde forty years or more, to disband the profession, as it were, to throw the fat into the fire and call ourselves failures, and we ought to seek some other honest calling in which spheres of usefulness may open up to us, in pursuit of which a just appreciation of our endeavors may be looked for. Is not the sum and substance, the life and vigor, the brains, the whole physical being of the profession, a concentration and embodiment of the principle of the preservation of the natural teeth? To say anything else is a giving away of the fundamental principles.

I apprehend that thirty years ago there did exist a state which, viewed by the light of the present scholastic training, was a deplorable era, marked by the blood of thousands of slaughtered innocents, and might be termed the age of slaughter: in which time the profession was made up of broken-down tradesmen and mechanics, bounty jumpers and refugees from foreign parts, farmers and furriers, plumbers and tinkers, who, for a monetary consideration and six months' service, were turned loose on the community, and permitted to pursue their course according to the light that was in them, and everything was good grist for their mill. Happily, law and order has prevailed over this state of things, and the profession and people are protected.

If I were to say that the practices that then prevailed do now exist even in remote districts to any great extent, would be a-begging the question. I do not believe so. Yet I am led to believe by the action of the committee in the choice of this subject, that there does at the present day and generation, exist somewhere in Ontario one or more of those fossils, or perhaps pupils of the extinct race, who believe that their mission is to mutilate humanity from mercenary motives. I do not expect to teach them any better, that would be too much to expect of them, for as a rule they do not attend conventions since they know it all now. It is far easier on their conscience to stay at home and feel right than to learn better and not be able to do better. The only hope we have of them is that they will soon die and make room for civilized and enlightened beings to take their places.

Where do these people exist? Do we find them in country places, or in the towns and cities? or why do they exist? There

must be some demand for them, or do they create the demand? I hold the idea that every graduate in dentistry is by virtue of his qualification an educator. To the extent of his interpretation of the technical teachings of his college days, he must be responsible for his acts and manipulations, which must be reflected in time by the community either to his credit or damage.

If by a careful consideration of a certain case a satisfactory conclusion is arrived at, and a monument of skill and durability is the result, he has commenced to educate the community to his advantage. So according to his leading may he expect to find his patrons following, and if we find an isolated community given to false teeth, the chances are that the dentist is a rubber worker. In large communities we find all sorts and conditions of humanity, the rich and the poor, the educated and the ignorant, those from the rural districts and the city-bred; these call for different classes of the profession to deal with them. They differ in tastes and inclinations. One has the idea that false teeth are the perfection of life, another has a longing for lots of gold to show. Many let their teeth decay because it is cheaper to do so, and so on all through. There is a difficulty here in discriminating conscientiously, and yet there ought not to be. In rural districts, perhaps to a greater extent than in cities, the dentist may reflect his ideas more upon his patrons, for if he is the only representative he may be firm and decisive, argumentative and convincing in just the degree his inclination leads him. If he is an artist in rubber, false teeth is his line of argument, and I am afraid that frequently this result is from inability or indifference, and sometimes, perhaps, from the financial standpoint of the patient, and not from a correct measure of the state of the teeth. I apprehend that there is a tendency all over the country for improvement on the old method of sacrificing natural teeth, both on account of the effect of the superior education at present obtainable at our colleges, and the higher attainments in matriculants, and the good taste and ability to indulge it by the prosperous farmers and artisans, making up the various communities, and aside from individual cases which prove very little, there is a decided change for the better in the way of saving natural teeth.

It does not come within the province of this paper to discuss ways and means of saving teeth, or of the advisability of doing so under

exceptional circumstances. These points are left to the superior judgment and intelligence of the conscientious operator to decide. What the writer expects to do is to introduce the subject from a personal standpoint, and invite discussion and criticism, and thus lead up to a consideration of the many points involved. The subject is so wide, so big, so important, that a whole week could be spent on it, and the whole range of the curriculum gone over from Genesis to Revelation, in consideration of means to be adopted and ways to be pursued in saving teeth.

Let me ask you a question here, and let each one of you be prepared to give me an answer of some sort. I know each one of you will have an answer, and each one perhaps a different one, according to his personal practice, subject to local and personal qualification. The question is, When am I justified in using the forceps? Is it in the case of the temporary teeth? No, decidedly not; not under any circumstances, until the age of the child indicates that the time for action has arrived, and which to my mind is not until the new tooth is ready to take the place of the old one. More harm may be done at this age by premature removal than by delaying too long. Judicious treatment and filling (if possible) is always to be resorted to. Have a mind of your own and a policy to pursue and carry it out, and take the responsibility on your own shoulders without regard to parental or childish whims. In removing these teeth I have fallen into the habit of operating chiefly with my fingers or by an incidental application of a probe or excavator, and very seldom indeed resort to forceps, rather preferring to wait until such times as they are not a necessity, and prefer leaving roots until the full time for the new tooth to appear in a few days after operating. Is it in the case of the sixth year molars that I am to begin my maltreating practices, to do evil that good may come of it? That is my opinion in a general way of removing sixth year molars. To make a quotation for the occasion: "To be or not to be, that is the question. Whether it is better to suffer the stings and pains of outraged nature and present troubles, or to take up arms and fly to the evils that we know not of." No dentist is able to determine what is going to be the result of premature extraction of a sixth year molar upon the undeveloped maxillary. The facial derangement is more than he can foresee.

After years of careful observation and study of many cases in

regulating by myself and others, where these teeth have been sacrificed and where not, I am strongly convinced that there is an injudicious and wholly unnecessary sacrifice of good teeth here. I shall have to admit that once in a while a case is presented where extraction is advisable, but this is the exception, while too many make it the rule.

It is the shortest way out of a difficulty, the easiest way to settle the question. No account of the future years of lost usefulness, no consideration of facial expression, of the possibility of a contraction of the maxillary, or of a deviation from the plane of the grinding surface of the future arrivals enters into the consideration. It is simply expedient to extract and that ends it for the time being. No ghosts of the slaughtered innocents are likely to arise to trouble the conscience or rob us of innocent repose. Notwithstanding all this the principle is wrong. Conceived in ignorance and born in iniquity, it is practised too much and ought to be discontinued. Nature never provided a more fitting object for man's good, at a more opportune time, in a better place, than this same tooth, and am I, the learned and intelligent fellow-being who, by choice in a scientific specialty, is referred to by reason of my standing and experience, justified when I say I can do nothing but extract? I think not. Or does it justify me when I say, "Oh, yes, I might perhaps do something for you. I might save the tooth for a few years, but ultimately you may lose it. You had better lose it now and later on you won't miss it much." This looks like prostitution to me, and I prefer to save the semblance of a sixth year molar, at all events for a few years, until nature provides another to take its place to carry on the great work for which they are so vitally essential, which you all very well understand, and so much longer as skill and modern advanced dentistry may enable me to.

Use your skill and resources on these teeth without regard to remuneration or desire of the patient. It does not excuse you to say that it is ulcerated or the nerve is dead, or that the patient is poor, or ignorant, or unappreciative. Save the tooth and put it down to charity, which may cover a multitude of sins otherwise laid up against you. As far as individual cases of extracting are concerned, as they are presented to the dentist for relief from present pain, and where the denture is not the immediate question.

I apprehend that there is no difference of opinion, that all modern operators do make an attempt, and generally successfully, to save such a case. The point of debate and hesitation is generally when a few of the teeth are in need of treatment, or in case of a few good ones remaining, and the others more or less involved in doubt as to the advisability of attempting their salvation. In the light of present progressive dentistry, we can scarcely be excused in our action if we recommend a resort to extraction, except in cases of badly wasted roots. I hold a strong prejudice against removing even sound roots, preferring to fill them where they cannot be crowned, and protecting the soft tissue and upholding the alveolus as long as possible. A sound root may be serviceable for years, especially so after treatment and filling or capping.

Looking at the æsthetic effects of removing teeth and restoring by the factory-made article, I presume that many will consider me wild when I make the assertion, that it is a physical impossibility to restore or reproduce the natural expression to a face when once the roots of the teeth are removed. Yet, I make the statement, and challenge the artist in dentistry to get up and say so. It cannot be done.

The canine eminence cannot be prolonged on the outside of the maxillary sufficiently high, without interfering with the free action and motion of the lips. As soon as the six anterior teeth are removed, there begins a change in the body of the jaw as well as the alveoli, too high up for any outside artificial contrivances to be placed for the comfort of the patient.

It may be possible that this is the reason why our English brethren do not, as a rule, remove the roots in substituting the natural teeth; and, if so, I commend them for their good taste, from an artistic point of view, while from a sanitary or economic point, perhaps there is not so much to be said in its favor.

My faith in the dentist of the present and of the near future is unbounded, as to their action in regard to saving teeth. Everything is promising, their inclination is in that direction, their education is directed in that way, public taste is being directed more in that way, humanity calls upon them to do so, progressive ideas must prevail, and the time is coming when the forceps will be a quarterly or semi-annual issue, instead of a daily. This will

be brought about by honest, intelligent application of ways and means of treating and preserving the teeth. Honest endeavor and individual enterprise will help the public to see the folly of making needless sacrifice. Honest dentists will help to make honest and intelligent patrons.

Intelligent patrons will demand the best of service, and if honest to themselves and the profession, they will not be rummaging the newspapers to find the Cheap Johns who advertise eight dollar teeth (and gas free until the first of the month). Unfortunately for both the public and the profession, the curse of dentistry of the present day is this demoralizing system of advertising cheap work.

If I were to be told that a party had administered, on an average, gas six times a day, for a whole twelve months or two years, I should unhesitatingly say that that party was a conscienceless humbug, and was not practising dentistry at all, but prostituting a noble calling for filthy lucre. No doubt would exist in my mind that hundreds of good teeth must have been removed to be substituted by china store teeth.

This difficulty is difficult to regulate and can only be done by a firm determination upon the part of each and every new graduate to live up to the standard of professional etiquette, and adhere to the moral code of ethics, so generally understood if not always expressed.

A personal sense of honor and right pervades every properly constituted gentleman, and while he obeys this better instinct there is not much need for a written code to be placed before him.

There is much need in this country, in all countries, for advanced, scientific, conscientious dentists, who are willing to climb the hill of fame step by step, and by carefully laying the foundation of success upon correct principles, build up a reputation which will be lasting and enviable, but it can never be done on the line of false teeth, nor by printer's ink. If you know of any young man, graduate or undergraduate, bursting with ambition to do it all, given to big head, capable of running the whole concern, without much moral restraint and no conscience, utterly selfish, for whom the world was made and without whom the earth would be a desolation, you might advise him to put money into ink slinging and cheap teeth for his theme ; but to any of my hearers who regard honor above any other external advantage, who have any

regard for the opinion of good and true men, and who would care to establish a reputation on substantial grounds, avoid the stumbling-block of cheap teeth and advertising. The success attending this line of procedure is of the most ephemeral nature, requiring a constant resort to the same artificial stimulant, while without doubt it ostracises the operator from association and intercourse with such as might be a benefit, and it does not catch those of the public whose patronage and influence are the mainstay of a lucrative practice. It appeals to the most degrading sense of humanity, and leads the ignorant, thoughtless victim to expect good results without adequate remuneration, a principle which the commonest laborer, from the hod-carrier to the 'longshoreman and washee washee Chinaman, has long since recognized as vicious and wrong. We would perhaps not be interested in this disgraceful, unprofessional, unsound and undignified way of boasting along an unhealthy and undesirable practice, if it were not for the pernicious and totally uncalled-for sacrifice of good teeth which it involves, and the false impressions and wrong views it fastens upon the poor victims, who are led to measure the standard of the profession by their experience with these snappers and whippers-in whose failures and misdeeds are laid up to the general account too frequeutly.

It may be possible that this idea of demoralizing degeneracy is an outcome of too much competition, of too much supply for the demand for professionals, and the resulting sickly and unsatisfactory growth of practice, but my own opinion is not that such is the case. Since we will always find room at the top for good men, and the demand is always for more of such, and welcome to them with both hands held up.

What the public and professional demand of the day is, for less indiscriminate slaughter of good teeth, and more conservative treatment and preservation along the lines of advanced ideas and present day possibilities.

Some Recent Antiseptics.

Read before the Ontario Dental Society, Toronto, July, 1892.

By W. E. WILLMOTT, D.D.S., L.D.S., Toronto, Ont.

Mr. President and Gentlemen,—In this paper I can give but little original matter. A full discussion of the newer members of

this class of drugs would supply far more material than I would have time to place before you, so the presentation must necessarily be more superficial than minute. In this age of investigation and theory regarding micro-organisms, the subject of antiseptics must be important to the dentist. Antiseptics are medicinal agents which have the power of preventing the formation of putrefactive and fermentative changes, while disinfectants destroy these germs.

As the division of remedies into these two classes is more theoretical than practical, as far as a dentist is concerned, we may consider the drugs we will discuss belong to both, and will destroy as well as prevent. You will agree with me that antiseptics are the most important class of drugs to the dental practitioner, as without antiseptics no dentist can conscientiously practise his chosen profession. There are many drugs in our *materia medica* classified under this head, but there are several new ones which have not yet been accorded that dignity. One of the newest, and in my humble opinion, the best for general purposes is

ARISTOL,

or to give it its proper name, Dithymol-Biniodide. This remedy was discovered in a laboratory of Elberfield, Germany ; prepared by pouring an aqueous solution of potassium iodide into an alkaline solution of thymol, which gives a reddish-brown amorphous precipitate ; has no unpleasant odor, is non-irritating, non poisonous, insoluble in water, alcohol and glycerine, but soluble in chloroform, ether, essential oils, and slightly so in campho-phenique ; infinitely safer than bichloride of mercury and less irritating than carbolic acid ; contains 14.8 per cent. iodine, which it readily yields up. This property, Dr. E. C. Kirk says, is perhaps the key to much of its therapeutic value, affording, by decomposition in the presence of purulent secretions, a means for the presentation of iodine in the nascent state, in which condition its well-known antiseptic and germicidal properties are most active. Aristol is similar to iodoform, but has not its disgusting and suspicious odor, nor its toxic properties. A chloroform solution on cotton is a very pleasant and efficient substitute for sandarac as a wedge or temporary filling. It is entirely antiseptic, and after remaining for a week, has no unpleasant odor or taste. A thick chloroform solution makes a very good capping varnish flowed on paper, asbestos, felt, sheep-

skin, or some other material. As an injection for fistulous openings or as an application for pulpitis, a ten per cent. solution in sulphuric ether is recommended. Dr. Kirk reports astonishing success in the treatment of pyorrhœa alveolaris with a ten per cent. solution in oil of cinnamon or oil of wintergreen. As a dressing for root filling it seems to be just what we have been looking for in combination with campho-phenique on cotton, or in a ten per cent. solution in chloroform with gutta percha. I have used it with campho-phenique for some months and have found it more efficient than any of the other drugs I have experimented with. As it mixes more readily with campho-phenique, I regard it as preferable to iodol. I find it especially useful in cases where after an application to destroy a pulp it is not quite dead. I open up the pulp chamber and put in a pleget of cotton dipped into campho-phenique and then into the Aristol powder. This I leave for about a week with a temporary filling over it. At the end of that time I find the nerve has become much toughened and is easily removed. To quote again from Dr. Kirk, he says, "My own experience with it makes me commend it unhesitatingly, feeling assured that it possesses a unique combination of chemical, physical and therapeutic properties, which must, as it becomes more widely known, win for it a permanent and increasingly useful place in the catalogue of our therapeutic agents."

Hydrogen Peroxide.

Although discovered in 1818, it was not till about ten years ago that peroxide of hydrogen was used to any considerable extent in surgery, and it is only within a year or two that it has been extensively used in dentistry. It is a clear, odorless, watery liquid with a bitter taste. Marchand's preparation is the best on the market. It should be kept cool, as when warm it decomposes and becomes so much water, should never be used with metal instruments, as that impairs its usefulness. It is used extensively in treatment of alveolar abscess, pyorrhœa alveolaris, necrosis and caries, and lacerations and wounds of the mucous membrane. While perfectly harmless, it is the strongest bactericide known. It has been said that "rats have as good times with terriers as microbes have with the peroxide. It readily reaches the pus in its secret recesses, and by the boiling and bubbling process carries it out with its corpuscles, microbes and company."

This agent, "in contact with diseased tissue, decomposes, and the ozone coagulates the albuminoid matters of the secretions, the pus is destroyed and also the bacteria" (*Headlight*). Peroxide is of little use for sterilizing cavities, as it acts only on a very thin layer of the dentine, and will not penetrate any deeper. It is almost impossible to obtain a sample free from hydrochloric or sulphuric acids, and some think these may be responsible for the boiling and bubbling.

Dr. D. R. Stubblefield, of Nashville, says, "Further experiments repeated several times with the same sample showed the effervescing action when the peroxide was applied in root canals, whether there was any pus present or not; also that when the drug was placed in contact with pus outside of and away from a tooth, there is no evolution of gas. The next step was to free the peroxide from all acids, when there was no evolution of gas whatever, in the canal or out of it, in contact with pus or away from it, in the mouth or in the tooth out of it. The last experiment was with hydrochloric acid by itself, and it produced almost the identical phenomena as those by the peroxide in the first place, evolution of gas and all." Notwithstanding these experiments there is no doubt hydrogen peroxide has a place in the dental office to whatever it may owe its properties.

Campho-Phenique.

Though this is comparativeiy a new remedy, still it has been extensively experimented with, and reported in the *Medical Age* as an antiseptic without a rival. It is prepared by adding 49.5 parts of crystal carbolic acid to 50.5 parts of gum camphor. Dr. J. Foster Flagg, of Philadelphia, says it is "the most remarkable medicament which has ever been offered in connection with dental therapeutics. When it is known that it is a notable germicide, an efficient antiseptic, a non-irritant, a decided local anæsthetic, non-poisonous, insoluble in water or glycerine, does not stain or discolor, is possessed of agreeable odor, and not disagreeable taste, and maintains an unchanged integrity, it will at once be recognized as wonderfully adapted to a large proportion of all dento-pathological conditions, from sensitivity of dentine, through the varying conditions of pulp-irritation, pulp devitalization, pericemental irritation, alveolar abscess and caries, and necrosis of contiguous

osseous structure, and that thus it must rank as one of the most, if not the most, valuable polychrest which dentistry possesses."

Where cotton is indicated as a wedge, if dipped into this remedy the pain of separating and subsequent preparation of the cavities is reduced to a minimum. It is serviceable in the treatment of wounds, burns, scalds, sensitive dentine, pulpitis, periostitis, for canal dressing on cotton, fistulous canals. Hypodermically it is used as a local anæsthetic without any constitutional disturbances. By a series of experiments it has been shown that pure camphophenique is perfectly safe to be used in the mouth, and that in that condition it is as efficient in inhibiting germs as a 1 in 85 solution of bichloride of mercury. This solution of corrosive sublimate is six times as strong as is safe on the unbroken skin, and twenty-five times as strong as is safe on cut surfaces. If any of you have not used this remedy, I would strongly advise you to give it a trial.

Iodoform.

One drug which has been used considerably in dental practice, and one which, after a short trial, I burned, is iodoform. It is prepared by the action of chlorinated lime on an alcoholic solution of potassium iodide, heated at 104° F. It is in the form of a bright crystalline powder, with an extremely disgusting odor, insoluble in water, but soluble in alcohol, chloroform and ether. It is generally used in combination with oil eucalyptus, oil cloves or oil cinnamon, and is recommended especially in septic roots and pyorrhœa alveolaris. "Although destroying organisms less readily than carbolic acid, according to Miller it is ten times as powerful in preventing their development, and it would appear to have a much more marked effect than it as a disinfectant and deodorizer." (S. H. Hayward in *Dental Record.*) As far as its properties as a deodorizer are concerned, I fancy the cure would be about as bad as the disease. On account of iodoform's toxic properties and its abominable odor, iodol has been extensively substituted for it. This is prepared by precipitating pyrrhol (a derivative of animal oil) with iodo-iodide of potassium. It is insoluble in water, but soluble in alcohol and ether, and slightly so in glycerine. It is chiefly used with glycerine under any conditions where iodoform could be used.

Although I have mentioned only a very few of the many desirable antiseptics, I trust I have said enough to provoke an animated

discussion which will, I am sure, bring out many points which I have not had time to touch upon, and which will be of benefit to us all.

Copper Amalgam.

Read before the Ontario Dental Society, Toronto, July, 1892.

By GEO. H. WEAGANT, L.D.S., Cornwall, Ont.

It was with considerable reluctance that I acceded to the polite request of your secretary, and consented to write a paper upon "Copper Amalgam." I hesitated, from the fact that the ground has been gone over so often and so thoroughly already, that to most of you the subject is become thread-worn and uninteresting. I also hesitated from a feeling that I might be suspected of taking an undue advantage of the opportunity to advance my personal interests; and the latter consideration almost forced me to ask to be allowed to decline. I have, however, decided to lay aside my objections, trusting to your good nature not to misconstrue my motives, and to bear with me if I am tiresome.

During the last two or three years you have doubtless seen in many of the dental journals numerous papers, articles and discussions upon copper amalgam, some lauding it to the skies, others condemning it in the strongest terms. There is probably not one of you who has not had some experience in its use, if even only as an experiment. Many of you have used it very extensively; some use it occasionally, and others have discarded it altogether from their practice. You have all something to say, I am sure, either for or against it, and I hope my paper may provoke a discussion which will tend to lead us nearer towards discovering the subtle principle inherent in copper amalgam, which produces all the manifestations that have puzzled us so long.

There is no doubt that for certain cases, copper amalgam is one of the best tooth preservatives we have. Its efficacy as a filling material has been proven to the satisfaction of all. When properly manipulated, it is easy and smooth and clean to work, sets with a promptness enjoyed by no other amalgam, takes a fine, if ebony, polish, and keeps its shape and place as part and parcel of the very structure in which it is imbedded. It is next to impossible to

remove it when once hard, and that it exerts a therapeutic effect upon soft dentine requires no deep scientific and microscopical examination to demonstrate. Teeth which seem to have almost an antagonism for other materials, are reconciled to the presence of copper amalgam, and lose all their malign repellant behavior, so detrimental to their own safety, under its protection.

But copper amalgam is said to be unreliable, in that some fillings after a few months or years become "cupped"—the surface wearing down as if by attrition or the action of some solvent. Such a filling presents a scooped-out or concave appearance, even though the edges of the cavity may still be covered by the material. They are generally of a light color, but this is due no doubt to the constantly wasting of the surface. Other fillings appear to disintigrate—to become quite soft and easily cut to pieces with an excavator.

In describing the peculiarities noticed in fillings of copper amalgam which have not resulted in success, I cannot do better than cite from a paper recently read at a meeting of the New York Odontological Society by Dr. J. Allen Osmun, of Newark, N.J. He says :

"1st. We have all seen cases that have filled us with admiration, black but clean fillings, hard as adamant, and edges absolutely perfect—the ideal plastic filling.

"2nd. Then again, we have observed fillings black, but dirty in appearance, teeth in the immediate neighborhood all discolored with the stain of the disintegrated filling, probably the black sulphurent of mercury—however, saving the teeth as far as recurrence of decay.

"3rd. The third class of fillings is much like the preceding, only with this difference, that at the cervical edge we find that the filling has decomposed, and in some cases entirely wasted, so that it does not afford the tooth any protection ; in fact, it resembles, to a great extent, the phenomenon observed with the oxyphosphate fillings, and leads one to the conviction that the same agent is responsible for this condition of affairs. This I consider one of the most deplorable situations that can possibly exist, much more so than the other which is so familiar, and has brought copper amalgam fillings into such disrepute, and which I assign to the fourth class.

"4th. Where we find the filling material of a light or dull gray color softened, and in some cases to such an extent as to be easily removed with an excavator, while in others it simply is washed away, leaving a hard, glassy appearance, yet not hard enough to resist whatever the agent may be, and slowly the fillings cup. Yet this is not so dangerous to the welfare and preservation of the tooth as that class of fillings just mentioned which give way at the cervical edge, because in the one case no knowledge is had until great mischief is accomplished, while in the latter case it gives way from the outside surface, and the patient is conscious that something is radically wrong, and hence seeks relief."

Dr. Osmun thus classifies the different manifestations of copper amalgam in the mouth, as they have come under his personal observation. I would, I think, classify them a little differently. No. 1, and perhaps No. 2, we leave out of the list of failures, as these cases constitute the successful ones, and in my own practice the large majority. No. 3 I do not often notice, and I should place them under the same heading as the first cases in No. 4, namely, the cases of softening or disintegration. This class of failures I am satisfied is due to faulty manipulation, and think if care is taken it may easily be avoided, because the same tooth may be refilled with the same material and prove all right the second time.

The class of fillings mentioned in No. 4 which, although remaining hard, gradually and slowly waste away, is, as he says, the most frequent and the least dangerous. I do not know how the fillings become worn away. It cannot be simple attrition, as the material is much harder than ordinary amalgams, and I have seen fillings of both kinds in the same mouth equally exposed to the action of attrition—the alloy filling unchanged and the copper filling badly cupped, though the material remained hard and flinty. It cannot be due to acids, because no acid is ever found in the mouth strong enough to dissolve a copper amalgam filling. Some have claimed that it must be due to some constitutional peculiarity of the patient and suggest that we ought always to first make a trial filling, then if this filling proves successful, we can insert as many as we please in the same mouth with safety. Dr. Osmun says, "It does not seem plausible that all of these different conditions, from the 'very, very good,' to the 'horrid,' can exist sometimes in the same mouth

(which he has repeatedly seen), and the cause be attributed to the environment."

Dr. W. B. Ames, of Chicago, in a paper read before the Mississippi Valley Association of Dental Surgeons in March of last year, attempts to show that the solution is brought about by galvanic action. His argument is very ingenious, but I cannot fully agree with him. I think galvanic action may have something to do with the failures, but do not think it is brought about as he states. He admits that it would be unreasonable to "suppose that there was ever a condition of the saliva sufficiently acid to dissolve copper and mercury to the extent that we often see, unless the action was in some way intensified, as these metals are only soluble in powerful acids, unless the less energetic acids be used in connection with a galvanic couplet, etc., etc." Then he goes on to show that outside the mouth the galvanic current would cause the solution of the components of a copper amalgam filling in the weak acids. And likewise the same phenomena might be observed in the mouth in the rapid washing of those fillings which were so placed as to form the positive element of a battery, the negative element of which was an adjoining or occluding gold filling or crown. But then sometimes copper fillings waste when there is no gold crown or gold filling in the mouth, or even a filling of any other material, so he lays the blame to free copper. He notices the fact that many copper amalgams, when made dry, presented the appearance of being composed of copper amalgam and *free copper*. This free copper poses as the positive element, and the amalgamated portion the negative element ; both placed in the acid fluids of the mouth, and here we have a galvanic battery in full swing working merrily night and day, pulling down bit by bit the edifices we were at such pains to build.

He does not say how the battery works in alkaline saliva, and we are all aware that fillings sometimes waste in mouths showing a distinct alkaline reaction.

This peculiar coppery appearance upon which Dr. Ames bases his whole theory of galvanic dissolution, I very rarely see, as I do not work my amalgam so dry as to bring about this condition. I have, however, some fillings which, when inserted, presented this very condition. I have been watching them for some time, but so far have seen nothing that would lead me to think galvanic

action was pulling them to pieces, and they are in a mouth distinctly acid. Dr. Ames thinks this coppery color is due to the material being improperly or insufficiently amalgamated in the first place, and to *excessive grinding*, at least I think he *guesses* at the last. My experience goes to show that extensive trituration improves all amalgams, and especially copper amalgam.

Dr. Custer, who opened the discussion upon Dr. Ames' paper, and who fully endorses the theory advanced, says that "Copper amalgam consists of copper particles in a fine state of division, whose surfaces are more or less amalgamated. If this amalgamation is perfect there will be no copper surface exposed at all, yet if one of these particles be broken in two its whole inside will present a clean copper surface." He says, "there is no fusion of one metal into another." I have seen it stated time and again that there is no real chemical union between mercury and another metal in an amalgam. Perhaps there is not; but I believe there is fusion, just as much as there is between gold and silver, in an alloy of those two metals, or as there is in an alloy of silver and tin.

I do not know exactly what relations the different metals bear to each other in the state called fusion, whether the minute infinitesimal particles of each metal remain intact and distinct from each other; but, whatever fusion is, I think that the same condition exists in an amalgam. There may be particles of free copper in copper amalgam, and in the coarser grades I think there are; but their surfaces must be covered with an alloy composed of copper and mercury fused into each other. It is reasonable to suppose this coating of alloy has a perceptible depth, and the finer those particles are the more complete the fusion, and if we follow it up we can imagine a state of affairs when this fusion goes clean through the minute particles of copper, and then there would be no free copper contained in the mass. We can cover a piece of copper completely with mercury by rubbing it in; so, by grinding copper amalgam and breaking up the minute particles of copper and rubbing in the mercury upon them we get more complete fusion. But, better still, if the copper, in the first place, be precipitated in as fine a state as possible upon the mercury, we have a more thorough fusion still, for we know that copper precipitate, in a nascent state, amalgamates or fuses with mercury.

The precipitate from a strong solution of a cupric salt is coarser grained than from a weak solution. If the solution was diluted with an equal bulk of water, the precipitate would be twice as fine; the weaker the solution the finer the precipitate, and the more complete the fusion between the copper and the mercury, in short, the more thorough the amalgamation. I agree with Dr. Ames and Dr. Custer that the copper amalgam must be thoroughly amalgamated and of fine grain to give the best results. I go further and repeat what I have always maintained, that it must be thoroughly clean and free from all kinds of impurities, especially oxide of copper or mercury or any other metal. If we overheat it or allow it to become wet or damp while mixing, it becomes more or less oxidized and therefore unclean. I attribute the discoloration of tooth substance by copper amalgam fillings to impurities in the material.

I received a letter not long ago from a prominent American dentist asking me what was my theory concerning the wasting of copper amalgam fillings. He says, "we know copper amalgam will save teeth; now, we want to know what will save the fillings." I was obliged to confess I had no theory to advance. But I have been experimenting with the material for a number of years. I have made a great many experiments both in the mouth and out of it, and have kept a record of fillings put in and notes of the various methods employed and peculiarities observed. The results of my observations, I fear, do not amount to a great deal. They have certainly not led to the adoption of a theory. But I have learned to avoid many things which invite failure, and to recognize indications which promise success. I have noticed that failures are more likely to occur in some localities than in others, for instance: copper amalgam fillings placed in approximal cavities extending over the grinding surface of molars and bicuspids, are more apt to fail than all others. Large crown and contour fillings in molars come next. These fail from the wasting or cupping described before. Buccal fillings very rarely fail unless they extend to the grinding surface, when "cupping" generally takes place. Small crown and fissure fillings seldom fail, and approximal fillings, anterior or posterior, which do not reach the grinding surface, are almost invariably successful. The most permanent and successful I find are fillings in those shallow groove-like cavities on the palato-cervi-

cal and linguo-cervical surfaces of molars and bicuspids, and sometimes of canines and incisors.

In my own practice I have very few failures, and I dare say it is because I use copper amalgam very cautiously. I never employ it where other amalgams would do as well, nor where experience teaches me it was likely to fail. I have never considered it to be a substitute for other materials, but rather a material to use where I knew anything else would fail. I have not begun to have the number of failures in my own work that other dentists report in theirs, and I have seen more failures in fillings made by other dentists than in my own, but I think that is because they use it too indiscriminately. In fact some have told me they have used it altogether to the exclusion of every other kind, and I have no doubt it is due to this fact that it has proved so disastrous in many hands. Dr. Trueman says that he "considers copper amalgam, judiciously used, a valuable addition to our list of tooth-saving materials. It does not, however, supplant the alloy amalgams." He is disposed to think "that in the long run, those who use it most cautiously will appreciate it most highly."

I have never seen recurrence of decay around a copper amalgam filling, except in those small shallow buccal cavities in molars and bicuspids at the margin of the gum, where we find a disintegration and softening of enamel. I think the fault in these cases lies in not cutting enough of the enamel away in the first place. I would not blame the amalgam, as another material would have done no better—certainly not an alloy amalgam. It is in those very same shallow buccal cavities where the use of copper amalgam is specially indicated just there where it exhibits, in strong contrast to other amalgams, its peculiar unshrinking qualities. Even the small amount which good alloy amalgams shrink would be quite sufficient to cause it to "drop out."

Of course, in speaking of failures, one would not include those cases where recurrence of decay was caused by the accidental fracture of the tooth at the margin of the cavity. My experience has been that there is less liability of marginal fractures where copper amalgam is employed than where we use an alloy amalgam, and I account for it in this way: There being no shrinkage with copper amalgam, the enamel is better supported, and consequently not so apt to break. With some alloys we know

there is considerable shrinkage, and a space is left under a thin portion of enamel inviting fracture sooner or later.

In mixing copper amalgam or preparing it for the cavity, if it is too soft it will result in disintegration and softening of the filling. Neither must it be used hard and dry. See that it works with a smooth plastic finish under the burnisher. If it is dry and granular under a burnisher, it will result in failure. It is not difficult to determine the proper plasticity to give best results, as when it works smoothest and easiest is when it is right; and when it is properly mixed it certainly is a very pleasant material to work.

Do not insert the copper amalgam after it has begun to set, for your filling will fail. After it has begun to set it should not be reheated until thoroughly hard.

Dr. Ames argues that we heat and triturate it too much. Dr. Barnes and Dr. Osmun contend that we do not heat and grind it enough. It is my opinion we heat it too much and triturate it too little. When I say heat it too much, I do not mean too often, but with too high a temperature. Copper amalgam should be heated slowly over a small flame, care being taken not to raise the temperature too high. If care is taken, it does not matter how often we heat it and allow it to get hard again; the oftener the better; but I think that part of it is the manufacturer's business to attend to.

I would like to say a word in reference to mortars. It is important to have a good one. Some of the small porcelain mortars to be found at the depots are worse than useless—smooth inside, with a pestel also smooth and too small to grasp. Some of the larger glass and wedgewood mortars are better, but some of the pestels are too large. The mortar I have found to give the best satisfaction is a ground glass mortar and pestel made by Fletcher of England.

The Diagnosis of the Diseases of the Teeth.

Read before the Ontario Dental Society, Toronto, July, 1892.

By James Stirton, D.D.S., L.D.S., Guelph, Ont.

The subject on the programme assigned to me, and which I have been requested to give a paper upon, is one of great interest

to every active practitioner, and which affords broad scope for interchange of practical observation and idea.

On account of the number of diseases to be taken up, the remarks will necessarily have to be exceedingly brief. We know that every *effect* has a *cause*. Every drop of water that ebbs and flows on the sea shore, every grain of sand that goes forward and recedes, for the force thus exerted there is a cause. So in our subject. The diseases of the teeth are the *effect;* find out the *cause*, and by thus doing we are able to diagnose the trouble.

The one disease alone, caries, the most prevalent of all diseases that affects all races and classes of humanity, would of itself be a subject that could not be adequately dealt with in the confined extent of an essay upon an occasion of this kind. In one way the diagnosis of caries is simple. We see it every day, and it can be told at a glance. Our whole life work is to combat the ravages of its insidious work. Still to find out the prime cause of caries is one of the most difficult tasks that has yet met investigators, and I shall not attempt that which the most brilliant minds have as yet failed to solve thoroughly and to the satisfaction of all, and thus not follow the saying that "Fools step in where angels fear to tread."

I shall divide my paper into three parts: 1st, diseases of the pulp; 2nd, diseases that affect the external portion of the tooth and peridental membrane; 3rd, diseases that are indicated at some part distant from the tooth.

1st. Diseases of the Pulp. It will be well to glance at the physiological structure and appearance of the pulp. It is a highly vascular organ, composed of blood vessels and nerves held together by connective tissue, with spindle-shaped cells, the periphery of the pulp being formed by a layer of odontoblastic cells. It must be remembered that the pulp is the organ of thermal changes of heat and cold, also that in diseases of the pulp and peridental membrane inflammation in some form or other is invariably the prime cause of the trouble.

After caries has done its work, and the tooth has been partially destroyed, the pulp is encroached upon, and we have a case of slight or complete exposure. This is recognized by the blood-red appearance, no pain, or if any, slight, indicating that no severe inflammatory progress has taken place.

When inflammation of the pulp has commenced, we have a case of *superficial pulpitis*, indicated by pain followed by the other inflammatory symptoms, stasis, exudation of blood corpuscles, causing darkened appearance of pulp, no periosteal disturbance.

This will in all probability continue until the whole pulp is affected, when we have a case of *hyperæmia* or *deep pulpitis*. Here we have more excruciating pain and complete inflammation of the whole pulp with its attendant results. There may also be tenderness of tooth to the touch should inflammation exude through apical opening. Inflammation may be of long duration, and especially if apical opening is large ; patient may go for weeks in a state of torture.

This is the condition so aptly described by Burns in his address to The Toothache :

"When fevers burn, or ague freezes,
Rheumatics groan, or colic squeezes,
Our neighbors' sympathy may ease us,
We, pitying, moan ;
But thee, thou de'il 'o a' diseases,
Aye mocks our groan."

When apical opening, however, is small, it will not be long, if inflammation is severe, until another form will take place, viz., complete death of pulp ; this will take place by strangulation of pulp tissue at apical opening, and that result is indicated by cessation of pain, and the fact that upon application of instruments no discomfort is caused.

We occasionally find in teeth which are dark the decay is of a black, dry appearance ; upon opening we find the pulp a dead, dry and shrivelled mass. Sometimes a viscid, creamy substance may be found with a brooch at the apical approach, but usually the canal is completely dry. This is termed *dry gangrene*, and is often the result of the withdrawal of the albumen of the tissue.

Secondary dentine, or *nodular deposits*, are sometimes called disease or a pathological process, but I am doubtful if they are not an entirely physiological process, an effort of nature to shield her own organ against the encroachment of disease.

Pulp tumor, or *polypus*, are found mostly in teeth of imperfect calcification and in young persons. The only other disease which it might be taken for is *epulis*, but the latter is found attached to

the alveolar border, while polypus proper is always an appendage of the pulp, and is a proliferation arising from the structural connective tissue of the pulp. It is of a dark, reddish color, spongy in texture, not particularly painful, and found in broken down teeth.

We have now reached the apical opening and to the diseases of the peridental membrane, the fine tissue well supplied with blood vessels and nerves surrounding the root of the tooth, and serving, as well as to give nourishment, to retain tooth in place. The peridental membrane is certainly the organ of touch of the tooth, and it must not be forgotten that nearly all diseases of that membrane arise from some form of inflammation. We know what the cause is, and knowing that, the symptoms of the effect are at once apparent, and a correct diagnosis made easy.

Acute pericementitis always commences near apical opening, and is usually the result of death of pulp, or sometimes before the demise of that organ if the apical opening is large. There is soreness of tooth, a slight elevation of tooth in socket causing pain on biting, a reddish appearance and swelling of tissues surrounding. The pain is pulsating and exacerbating. This may continue for a short time and terminate in acute alveolar abscess, or may become modified and become chronic without formation of pus. We have then a case of chronic pericementitis. There will be continuous soreness of not so exacerbating a character as in the acute variety, swelling, pain upon touch, may remain stationary for a few days or a lengthy period, disappear for a time and then return.

Alveolar abscess is always the result of inflammation of peridental membrane, and is always primarily located at the apical opening. It may enlarge its area until the whole peridental membrane is affected. There is exacerbating, throbbing pain, patient may be fevered, reddish swollen appearance over gum ; swelling may continue to frightful extent, cheeks ædamatous, swollen and protruding, eye on side of face affected may be closed, or if on lower jaw cheek may be hanging in baggy shape, and face and mouth distorted. These are the symptoms carried to the most serious conditions, and often long ere this degree is reached the formation of a point of exit for pus and its discharge, permits the swelling to subside and the face to resume its normal appearance.

We have now a chronic alveolar abscess, and this is easily

diagnosed by the fistulous opening through which the pus formed exudes. This may almost close up, but a very small opening being visible, and it may completely close, resulting in a blind abscess. The tooth affected may present an appearance of perfect health. Perhaps the translucency is not quite so natural as in a tooth where the pulp is alive. In diagnosing chronic abscess the *fistulous opening* is the important point to keep in view. A fistulous opening may be found in various parts of the face, on the cheek, in the nasal cavity, on the roof of the mouth, in the antrum, under the chin, and on the neck as low down as the clavicle. The only trouble is that occasionally, but rarely, these fistulous openings may be caused by *necrosis*. In any case of doubt the only method is to examine every tooth with the greatest scrutiny. A tooth must be pulpless to cause abscess, and by examining every pulpless tooth carefully the origin of pus exuding from fistulous opening will surely be found.

The deposits of tartar and its inflammation results, as known by the various names of salivary, calculus, calcic inflammation, is comparatively simple in its diagnosis, although the disease is very destructive in its effects. There is supposed to be three sources of origin of the adherent matter, the *serum*, *saliva*, and particles of food. The serumal variety is recognized by its brownish nodules encircling the root of tooth under the gum, which is red, inflamed, and receding from tooth. The salivary variety is of various shades of color, from a yellow to quite dark. It is deposited in some mouths in large quantities, sometimes covering many of the teeth, and is supposed to be a deposition of the lime salts of the saliva. The inflammation will continue, causing recession of gums, and if permitted will eventually destroy. This disease usually attacks lower incisors and upper molars.

Phagaedenic pericementitis, or Rigg's disease, is a disease essentially of the peridental membrane, exceedingly destructive and usually associated with less apparent inflammation than calcic inflammation. It is irregular in its attacks. One side of a tooth may be affected while the other is not. At the inception of the disease the gingival margin of the gum is slightly red and inflamed. As the disease advances, this to some extent disappears ; the peridental membrane is destroyed longitudinally, forming pockets. These pockets may be detected by passing towards the apex a

thin flat blade. This process of destruction will often extend around the tooth, destroying the whole peridental membrane. This disease may be associated with calcic inflammation ; a brownish deposit of serumal calculus may be found under the flap of the gum, while the destructive phagaedenic inflammation pursues its work on the membrane and alveolus. The essential points for diagnosis are, 1st, not great superficial inflammation ; 2nd, formation of pockets and destruction of peridental membrane ; 3rd, its infectious character or liability to attack neighboring teeth.

The Diseases of the Exterior of the Tooth.

1st. Caries, which I shall make no remarks upon, as its diagnosis is easy.

2nd. Abrasion and Erosion.

Abrasion may be called a disease, but it is the result of mastication, and is seen in the worn-off cusps of biscupids and molars ; little pits and grooves being formed on the grinding surfaces of these teeth. The incisors and cuspids also may be worn ; in some cases all the teeth may be worn almost to the gum. This trouble is seen in persons getting up in years.

Erosion is found usually on the labial surface of the anterior teeth, and is recognized by pits or an angular depression a little below the gum ; these being formed apparently without any cause. The base of these depressions are hard, and thus differ from caries. The etiology of erosion is very obscure.

We have now reached the third and last class of diseases. Those when the pain is indicated often at a distance from the tooth.

A patient comes into your office complaining of shooting exacerbating pain over side of face ; cannot localize it. You examine the teeth ; apparently nothing the matter with them ; tap them with an instrument, no discomfort caused. What is the trouble ? In nine cases out of ten it is one of two troubles : either there is a filling encroaching upon the pulp, or there is an obscure carious spot which has reached the pulp, setting up violent inflammation. It is not absolutely necessary that the carious spot should be obscure, as sometimes an apparent exposed pulp causes pain hard to localize. If there are any fillings which you suspect, use a syringe and cold water, and you will soon localize the guilty tooth.

In some cases hot water is better for a diagnosis, as it expands the gases under the filling, causes pressure and pain. Cold water is the better for diagnosing an obscure case of pulpitis, which causes reflected pain.

Neuralgic pain may be caused by the teeth, and these are the most difficult of all for diagnosis. I have a case in view, for during the last four years I have taken out six apparently sound and healthy teeth for a gentleman who has suffered the most excruciating and agonizing neuralgic pain. Upon the first consultation, he complained of severe shooting pains over side of face, and, in his opinion, localizing itself at a bicuspid. Upon examination the teeth were found perfectly sound, and diagnosing neuralgia. I sent him to his physician for constitutional treatment. He returned shortly, however, no better, and demanded that this tooth be taken out, and out it came, as sound and perfect as the day it was erupted. This gave him relief for a month or so, and again he came in agony, and again another tooth had to disappear, with relief as the result. During four years he has lost six teeth in this way. Why the extraction of a perfectly sound tooth should give relief to the most excruciating pain is more than I can tell. All I know is that it is a fact, but impresses me with the belief that the diagnosis of the cause of neuralgic troubles associated with the teeth are the most difficult we encounter. I must now conclude. If I have not dealt so fully with the various diseases as might be desirable, I must plead lack of space and time. The subject is so vast and interesting that in an essay suitable for an occasion of this kind, which should not be prolix, but a very brief consideration of each disease is permissible.

Electricity—Its Application to Dentistry.

Read before Ontario Dental Society, Toronto, July, 1892.

By T. Brown, Otterville, Ont.

Mr. President and Gentlemen,—I trust that you will overlook any shortcomings that appear in this paper, as I am rather at a disadvantage. We expected Dr. McElhinney to prepare an essay on this subject, and I was asked to open the discussion instead of presenting this hurriedly written one of my own. However, as the

subject of electricity is one in which we should all take a deep interest, I will endeavor to give you a brief outline of its uses as applied to our profession.

Electrical science has made rapid progress in the last few years, and what was a very interesting experiment has become a success, and applied to nearly all branches of civilization. We, as members of the dental profession, should be proud of the progress made in our calling. We are keeping abreast of the times in operations, therapeutics and mechanics, and are ever ready and willing to adopt any means that will assist us in our work. In the adoption of electricity, we have indeed a valuable assistant as a motive power, an illuminating, heating and therapeutic agent. It has ever been the chief aim of man to find a substitute for muscular energy. We have looked to the elements to supply us with this power. Various means have been tried from time to time, such as gravity, running water, wind and expansion of gases. But the only one suited to our needs is electrical energy, as it may be carried a great distance on a small wire and supplied to the electric motor which propels our dental engines, mallets, lathes, and many other appliances generally found in our offices.

The chief reason the electric motor has not been more generally used by us, is on no account due to the want of a perfect motor, as we have many good ones, but rather to the defective supply of electrical energy.

In former years batteries were the only source we had to rely upon. Powerful ones were few, some dangerous; others gave off disagreeable fumes. The bichromate of potash battery has been most successfully employed, but this is also difficult to use for any length of time. If some day we should have a perfect battery, easily handled, powerful, constant, and not wasteful, without doubt it would be largely employed by us. But at present it is impracticable to make a success with a primary battery. As an improvement on primary batteries, secondary or storage batteries have been employed, and with somewhat better success. But still they are not just the thing. The lead plates soon wear out, and it is necessary to charge the battery frequently, according to the amount of work performed. This form of battery is also rather expensive. Thus you see this means of supplying us with electrical energy is not to be depended upon where continuous work is required. But

as electric lighting and power companies are so common throughout this country, we can dispense with batteries, and seek our energy from street circuits.

Before investing in an electrical dental outfit, I would advise you to acquaint yourselves with the various currents supplied by electric power companies. The three in general use are High Tension, Low Tension, and Alternating Currents. The first should never be used by us, as the voltage is too great to be brought in contact with our patients, the mouth being a good conductor of electricity, as it is always in a moist condition. The company will generally try to persuade you that by making a shunt from the main current, and introducing a theostat outside your office, the voltage may be decreased sufficiently to answer your purpose. However, I would not consider myself justified in recommending this to be used on either the electric mallet or dental engine, but could be advantageously employed in our laboratories to propel lathes, etc. Do not think me pessimistic on this subject, as I am rather inclined to be otherwise, and simply wish to give a word of warning to those who are not thoroughly acquainted with the difference in the currents.

The Alternating current is also of a high voltage, but as this is not applicable to the electric mallet, it will never be generally used.

Wherever a Low Tension current is available, it can be used with perfect safety, and will afford much pleasure to both patient and operator. Especially is this the case in large and tedious gold fillings. When once accustomed to its use, the operator will save fifty per cent. of the time necessarily employed by hand or automatic mallet, and the patient does not experience the unpleasant jarring usually felt with other mallets.

Most appliances on sale at our depots are intended for the Edison incandescent current. Dr. Kells, of New Orleans, has the most complete dental electric outfit that I have ever seen. It consists of a small motor which turns the engine, a hooded lamp of about five candle power for illuminating the mouth, wires for attaching the electric mallet. The current is controlled by a movable pedal switch, which may be started or stopped almost instantaneously. The strength of the current is regulated by a theostat confined in a neat walnut case, on the outside of which is a double row of contacts. The upper one gives current for electric mallet and mouth illuminator, while the lower row throws the force to the motor,

which will increase the speed of the engine from sixteen hundred to six thousand revolutions per minute.

As illuminating power, besides supplying us with light for our offices, it is recommended as a valuable assistant in diagnosing doubtful cases. Where pus is supposed to be confined in some interior cavity, as the antrum, a small lamp of three candle power, is used. The patient is placed in a darkened room, the lamp inserted in the mouth, and the mouth closed; if pus is in the cavity the rays of light will not be transmitted.

As a heat producing agent it will soon be used to heat our offices, run the vulcanizer, and generally take the place of gas or kerosene.

A dental electric cautery is recommended to relieve sensitive dentine, as a root dryer, etc.

Electro-therapeutics has not been very largely employed in dentistry. Some claim to have made a success in applying it to cases of hyperæmia, peridental membrane, neuralgia, facial paralysis, and various nervous affections. Having never used it in such cases, I cannot vouch for its success. Before closing this paper, I wish to say a few words about the disgraceful way this valuable agent was abused by some unscrupulous members of our profession a short time ago, who claimed to have made great success in using it as a local anæsthetic in extraction of teeth, under the name of the Dental Electric Vibrator. Electricity, as a local anæsthetic, holds no place in surgery, and whatever good results were attributed to its effects were entirely due to other causes.

Electricity has been thoroughly investigated by the best men in our profession, and all pronounce it nil as a local anasthetic, but as a motive power, heat producer and illuminator, it is one of the most valuable agents that can be applied to dentistry.

Eastern Ontario Dental Association—Thirteenth Meeting.

Address by Chas. A. Martin, L.D.S., Ottawa.

Another year passed, and we meet again on the thirteenth anniversary of our existence as an association. Recollections of the past, will, I am satisfied, assure those who have partaken of the genial hospitality of the Kingston dentists, that we will be made

to feel at home. I always anticipate with pleasure the meetings held in Kingston. There is no city or town in the Dominion where the resident dentists live in greater harmony and friendliness. They have ever been, singly and collectively, a powerful help to our society. It can hardly be expected otherwise ; they live in an atmosphere where the greatest intellects Canada has produced have lived in harmony, and after a diversified course, occupying the highest and most responsible positions Canada could offer. Those great men have returned to old Kingston to rest for ever. I have said on another occasion that our meetings should partake largely of recreation. The programme, I see, provides for this to a pleasing extent ; still it is due to those who have taken the pains and trouble to prepare papers and clinics that we should give them our earnest attention. That it has been a benefit to those who have taken an unselfish part at our meeting, I have reason to believe. That in our unostentatious deliberations a portion of the Ontario dental profession have not only benefited but have raised its standard in public estimation, *i. e.*, by a higher and nobler conduct towards each other. It has caused a fraternal feeling to exist and grow in towns and cities where two or more dentists practise—a co-operation for mutual improvement, as it were.

The year just past has been an eventful one for our little association ; it has caused the whole Province of Ontario to listen to its appeals, and has received the support of the majority in its demands. A great change is about to take place in the management of our institutions. A Bill has passed the Ontario Legislature with amendments conforming with the wishes of the majority of the Ontario dental profession. The dissatisfaction which has long endured with existing state of management has been increasing with the additional number of licentiates. Those licentiates who have passed through our college course are, no doubt, better able to judge of existing defects, and are therefore the more capable to suggest improvements and ameliorations ; providing they are honest in their actions, and not moved by personal spleen, their ideas will prevail. That they are honest is shown by the earnest unanimity of their actions. That the change will give better general satisfaction time will show ; at all events we will require to remain for a time satisfied with the present change, as our legislators are grumbling at the frequency of our appeals for

amendments. But it must be remembered that we are young (comparatively speaking) as a recognized profession ; that the dental profession is astonishing the world by its rapid progress, and we therefore cannot be expected to remain content with slow evolution. The framing of a Bill by active members of our association, and submitting it to the licentiates of the Province for approval, resulted in obtaining a majority over the one submitted by the Board. This I pointed out to the Board assembled from figures given me by our Secretary. The Board then passed a resolution (see notes) adopting a bill of amendments which was to have been discussed at the general election meeting in July, when an agreement could be arrived at as to the best mode of procedure. But, alas, the wisest schemes are oft frustrated. During the interval a deputation from Ottawa went to Toronto, with the result now obtained. Members of the delegation can explain to those who desire to know what transpired. Now, this has not been brought about without expense, the details of which will be shown later on. As a few only of the licentiates have expended their time and money in this movement, and as it was carried out in accordance with the wishes of the majority of the licentiates, it is the duty of the licentiates of the Province to contribute their share of the expense. This can be done by presenting a bill of expenditure to the Board of Directors, and have such expenditure recouped from the general fund.

The concession made by our delegates as to the annual fees demanded of the licentiates may not meet with general approval, as is shown by the last vote taken on the question, but I think the objectors will concede that we should be on an equal footing in this respect with the medical and pharmaceutical associations, and contribute our quota for the establishment and maintenance of a suitable institution such as we can point to with pride and honor, an institution that will continue to guard our professional interests.

Dental licentiates are rapidly increasing in Ontario ; between forty and sixty annually receive the parchment with the college stamp. Judging from the conduct of those established in Ottawa, the code of ethics is generally well adhered to. From other parts we hear of some stray ones, in apparent desperation to realize their extravagant expectations of a rapid and easy road to wealth, turning their dental office into a factory, where a number, combined,

turn out rapidly *plates of teeth*, cheap, as advertised. Judging from numerous failures in this mode of practice, and in contrast, the steady growing and stable practice of the skilful practitioner in a select office, the one who starts out with a patient and determined purpose to hold and raise the dignity of the profession will reap the greater reward in the long run.

The higher standard of education required at present by our college of students desiring to enter for the study of dentistry will naturally evolve men capable of writing interestingly on dental topics; therefore a medium through which we can express our opinions, advocate our rights and condemn wrong-doings, is a necessity, and no doubt will be supported by the profession of Canada generally, if it be not sectional in its selections, but conducted in a true catholic spirit. We have, it is true, a creditable publication at present, the DOMINION DENTAL JOURNAL. I would prefer it to be what the name implies simply, not an official organ of any association. It might perhaps be more cosmopolitan, and find greater favor. As I predicted in a former address, viz., that if the younger members of our association would take a more active part in its proceedings, an attractive programme could be issued. We have such an one before us now, and a very creditable one it is, showing tact and energy on the part of the officials. It will, no doubt, be carried out successfully. Being a lengthy one, I will not further trespass on your time, but give place to more interesting proceedings.

Hemorrhage after Extraction.

Read before the Eastern Ontario Dental Association.

By A. A. BURNS, L.D.S., Smith's Falls, Ont.

In this paper I do not purpose dealing with any minute physiological state of the blood or tissues, but more especially to recall to the mind the ready and effective methods of arresting an undue flow of the blood after the extraction of a tooth. It has been stated that the appearance of a patient will be a key as to whether there is a likelihood of any hemorrhagic trouble. After taking due notice of the above, very little warning is given the surgeon from this source.

About the only correct warning is when the patient informs the surgeon of a trouble of this nature on a previous occasion. When a case of this kind is presented, it is well to take every precaution when performing operations of a similar kind for any members of the same family, as the trouble is said to be hereditary, and good grounds are presented from past experiences for so believing.

After a tooth has been extracted, the blood comes spontaneously and flows for an unlimited time in a degree such as will not cause any alarm. Usually after five minutes' flowing there is a process of clotting taking place. This stage in the flow of blood is called primary hemorrhage, and is usually all that the surgeon has to deal with, as the blood generally stops flowing as soon as the clot is formed ; but sometimes after the clot has formed, even eight or ten hours after, there appears a flow of blood more rapid than the preceding and in a somewhat pulsating manner. This is known as secondary hemorrhage. When this occurs, it is first advisable to remove the clot which has formed in order that a more definite application may be made.

Some surgeons advise the use of a large burr as a first means of arresting the hemorrhage. The burr is passed up the socket and then given a half turn. This carries out, to an extent, the Torsion method of dealing with hemorrhage. But while this may be all sufficient, it is open to doubt, as frequently the blood comes from the underlying portion of gum, and should this be the case, the foregoing method would fail.

What seems more practical is to take a strong solution of alum, formed by dissolving alum in warm water, and first applying with a syringe ; after a few applications in this manner, pellets of cotton may be saturated with the solution and forced into the socket. Some think that a greater effect is produced by applying powdered alum to the pellet after saturation. This may make the action more powerful. However, if this is not effectual, it is well to repeat the treatment ; or should we prefer another treatment to this : the wound may be syringed with peroxide of hydrogen, which is said to have an immediate action causing a clot which is not soluble in the blood. Pellets may also be saturated and inserted into wound.

While the patient is being treated, it is well to lose no time as patient is growing weaker, and the blood is losing its clotting

action on account of one of its exponent parts, namely, the serum becoming greater in proportion, displacing the organic matter. If none of these methods are successful, the stronger styptics must be resorted to.

The following are classed among the more powerful styptics for local application : Nitrate of silver, tannic acid, subsulphate of iron, perchloride of iron, persulphate of iron, gallic acid, tincture of ergot. Care must be taken so that no agent is employed as a styptic which will in any way destroy the tissue.

Nitrate of silver may prove successful in some cases, but it causes destruction of the tissues with which it comes in contact, and also forms a clot which is soluble in blood. Perchloride of iron acts in much the same manner.

Persulphate of iron is the best of the iron compounds. It acts readily, does not destroy tissue, and after action presents a clean looking wound.

Tannic acid is an excellent styptic, and answers well in connection with a compress of lint or cotton. Also gallic acid. The clot formed by these is not soluble in blood.

Powdered subsulphate of iron used on pellets of cotton saturated with sandarac varnish, followed by the use of the compress so adjusted as to act directly upon the mouth of the bleeding vessel. This is generally effective in alveolar hemorrhage.

Tincture of ergot is also good, but must be used hypodermically in about the proportion of one part ergot to two parts water. It is found that when the tissue has been punctured by the needle it presents a dark, swollen and unsightly appearance. During the time that operation is going on, it is well to see that the patient rests, and is in the horizontal position, having the head and shoulders raised. It is well in severe cases to treat other ways than locally. Arterial sedatives should be administered, such as opium one grain, and acetate of lead two-third grains. Opium should not be administered in this quantity more frequently than once every three hours, and then as few times as possible.

If it is found necessary to resort to other means, the following might be of use : Take a piece of compound, and having heated it place it upon the jaw directly opposite the wound. Have patient close jaw, and in order that they do not meet closely, it is advisable to place two little blocks of wood in the compound before insert-

ing ; when this is properly hardened, it may be removed. The part of compound which came in contact with the wound should now be removed, leaving only a sufficient quantity to serve as a division between the jaws.

Take a quantity of plaster of Paris, and mix it to the proper consistency, using alum water for the purpose. It is necessary to hasten in doing this, as the plaster when mixed in this manner hardens quickly. Fill the cavity recently formed in the compound and place again on the jaw, requesting the patient to close as before, and then having bandage ready pass it under the chin, allowing the two ends to meet over the head, where they are securely fastened. In this manner the jaws are caused to remain in a fixed position.

In any treatment it is well to leave local applications, such as pellets of cotton, compress, etc., in position until there is not the least danger of a recurrence of bleeding. Some even go as far as to allow the pellets to remain in until they are thrown off by nature.

While the object of this paper has been to try and throw out a few ideas for use in any case of severe hemorrhage, if you will permit, I will spend a few minutes in the general treatment after every case of extraction.

I consider it best to syringe out the wound until a sufficient quantity of acid has flowed from wound, and endeavor as far as possible to carry this out. It will be found that if a slow stream of cold water is poured upon the bleeding tissue with the aid of a syringe, the blood will almost immediately cease flowing.

While the treatment may be somewhat heroic in general practice for winter, it might be more agreeable to patient to dispense with the above. As a substitute take carbolic acid and glycerine in proportion of one to four, and in about a quarter glass of tepid water ; drop from six to ten drops. This will be found to be equally as effectual as the other.

Some patients are given to what may be called continuous sucking of the wound immediately after a tooth has been removed. Others keep up a constant spitting. Blood is found to clot more quickly when allowed to flow of its own free will, so that either or both of the above actions are a great hindrance to *nature's* method.

The Uses of Electricity in Dentistry.

Read before the Eastern Ontario Dental Association.

By MARK S. MCELHINNEY, D.D.S., Ottawa.

The subject with which this paper deals, that of the uses to which electricity may be applied in dentistry, is rapidly becoming a very important and much discussed question.

Electricity, as a contributor to human needs, has rapidly passed beyond the stage of uncertainty and mystery, subject to the pseudo-scientific arts of magician and charlatan, into the brighter position of an exact science wherein both its possibilities and limitations are intelligently recognized and studied by scientific men. There is always a time in the evolution of knowledge regarding a newly discovered, or at least recently investigated force, during which are ascribed to it innumerable properties that it does not and cannot possess. Especially has this been true of electricity, from the promulgation of the false axiom of the electro-medical appliance vendor—"Electricity is Life," to the dentist that claims the attainment of painless extraction by means of the electric vibrator.

Yet there are legitimate uses for this force in our surgeries and laboratories, uses that are served far less efficiently by any other means, uses that cannot fail to recommend it as an invaluable friend and helper. A few words on the nature of this force will perhaps be in place, as the curriculum of our college includes necessarily what is very elementary on this subject, and as after graduation, amid the perplexities of office practice, time for study is limited, the dentist cannot be blamed for a somewhat restricted knowledge of the subject.

Electricity is considered to be a mode or state of matter co-relative with, but not similar, to heat, light, chemistry, etc. All substances are supposed to be pervaded with this force, but under ordinary circumstances do not exhibit it.

All forces in nature tend toward the establishment of an equilibrium. Suppose, for instance, two basins of water, connected by a pipe; now if one of the basins be filled, and the other be left empty,

there will be a current of water established between the full basin and the empty one until the level of both become the same.

In the case of two bodies of matter, if the electrical condition of one be raised above that of the other, there will be a current established, flowing from the higher to the lower. This difference in the electrical state of two bodies, or in different parts of the same body, is known as a difference of potential, so that, in short, the dynamo, battery and pile are various kinds of pumps by which a difference of potential is created, while the force is produced and the work accomplished by the effort of nature to restore the substances to a state of electrical equilibrium.

Electricity is often said to be intangible, and the knowledge regarding it in its infancy; but granting its corporeal intangibility, it must be admitted to be at least as well defined as any of the other forces of nature with which we are acquainted. Electricity is germinated, transmitted, stored and measured accurately as to quantity, quality and efficiency. It is as manageable as steam, gas, water, compressed air, or other powers.

Analogies are sometimes misleading, but I know of no better illustration of the nature of this current than that of a body of water such as is used for running water-wheels. The voltage or pressure of an electrical current is equivalent to the head of water in our analogy, while the amperage or body of current is represented by the size of the stream. The difference between frictional or static electricity and that generated by induction, or by chemical action, is in quality and not in kind. Static electricity is represented by a great head of water with a very small stream, while the other is more like a larger stream with a lower head.

A dynamo may be constructed to give a current of any quantity and pressure that the work to be accomplished may require.

As far as the dentist is concerned, the appliances come to him ready made, so that his duty is to ascertain the uses to which they may be put. The possible uses to him are to produce light, heat and power, and as a therapeutic agent.

Electricity may be generated by battery, small dynamo, or obtained from a general circuit. The running of an isolated plant is out of the question for the dentist. Battery power for lighting and heating purposes is both costly and troublesome, so that the only really satisfactory source is from the street circuit. Where

there is no general circuit available, the dentist will find either foot or water power far superior to batteries. For the electro-cautery and induction coil, in which but small currents are required for brief periods, the battery is both economical and handy, as one or two cells, requiring two or three charges a month, will suffice. Where the street circuit is available, the electric motor applied to the grinding and polishing lathe is a splendid arrangement, while for operating on dark days and in the evening, a properly constructed lamp apparatus is in some ways superior even to daylight. Though, perhaps, somewhat enthusiastic on this subject, yet I recognize that life is too short to be spent in fussing with a multiplicity of appliances, consequently I have discontinued using the electro dental engine and the small mouth lamp. There is no doubt that the best use, for some things at least, is merely to keep them lying around to mystify the uninitiated. The application of electricity to heating purposes is not yet perfect enough to provide the dentist with one really useful appliance. There is to be procured at the electrical supply depots a small kettle surrounded by a jacket containing the heating apparatus. This kettle was originally intended, no doubt, by some thirsty electrician, for making hot punch, but the dentist will find it extremely convenient to produce a small quantity of hot water at very short notice. If I could have brought one of these little appliances with me I have no doubt the gentlemen present would have been pleased to test some electrically heated water, to which might safely be added about twenty per cent. of a certain popular Gaelic antiseptic.

In therapeutics, electricity has truly been thought to be the elixir of life, and I do not hesitate to say that its value has been greatly over-rated. There is no evidence to show that it possesses such wonderful curative powers, especially in the forms often used, and this is why, in a recent number of the DOMINION DENTAL JOURNAL, it is termed "the mainstay of charlatanism." It is peculiar, but true, that mystery attracts more followers than does truth ; thus the intangible and wonderful nature of electricity has made it a tempting bait by which to catch the dollars of a gullible, because ignorant, community.

Electrical currents will produce certain effects in the animal organism, such as congestion, depletion, stimulation, spasmodic contraction, etc., according to the method of use, but are not all

these as easily produced by other means fully as accessible and as pleasant?

The value of the induced current or a local anæsthetic has received considerable attention on my part, for I have used the vibrator in different forms, in extracting, lancing and filling. The result of a study of some twenty-five cases, in which great care was taken to observe the effect upon the patients, goes to show that primarily the current has a very slight benumbing effect upon the soft tissues, this effect being far short of anæsthesia; secondarily, that the substitution of sensation is an important element, the pain being forgotten in the more sudden and unfamiliar sensation of the galvanic current; and lastly, and, strange to say, most important, the patient's conception of the relative intensity of pain.

Of the twenty-five above mentioned, about five claimed that the operation was absolutely painless; ten thought the pain considerably alleviated; of the remainder, a few considered the shock of the current worse than that of extraction; a few were doubtful, and one at least, who was an engineer by profession, stated that while he felt the pain of extraction, his attention was diverted by the peculiar sensation caused by the current. This last patient was the coolest and most intelligent of the lot, and consequently most capable of judgment in the matter. He had the opinion to which I plead adherence.

It is evident from these closely observed cases, and from numerous others at various intervals, that the effect is almost entirely mental, dependent upon the expectancy and the pain standard, so to speak, of the patient. This branch of the subject would of itself furnish matter for a paper; certainly it has been frequently overlooked in the study of local anæsthesia.

Two cases are worthy of notice: A lady, who was in that interesting condition necessary to the continuance of the species, was brought to my surgery by her husband to have a troublesome lateral extracted. He desired greatly to have the operation performed with as little resultant shock as possible. Fearing that a sudden shock might produce untoward results, I arranged the vibrator, and having told her that she could expect but slight inconvenience, extracted the tooth, being careful not to turn on the current. She was delighted with the result, and said that she scarcely felt the tooth coming out at all. Whatever qualms of

conscience were caused by this hardly defensible course were more than compensated by the success of the operation.

The next case was that of a young lady whose broken English gave evidence of undoubted French Canadian origin. She came in fear and trembling like a lamb to the shambles, and asked for extraction "par electricity." With the previous case as an example, and my battery being out of order, I attached the handles to a couple of wires that were near the chair, and extracted the tooth, a somewhat difficult one, to the utmost satisfaction of the patient, and so scored another brilliant success for the omnipotent electro-dental vibrator.

Most of you are aware of what great advantage the injection of even external application of pure water to the gum of a hyper-sensitive patient is in the prevention of pain. Applying the same principle to the vibrator, I leave you to draw your own conclusions. In lancing I found the vibrator slightly more successful owing to its slightly though superficial benumbing effect.

In the excavation of sensitive dentine and the removal of pulps the current is worse than useless. The appliance for this purpose, and with which I experimented, is here, and you may examine its truly formidable looking construction at your leisure.

To secure the highest degree of excellence combined with the smallest possible degree of pain, is the end to which operators and surgical dentistry strives, and the most direct though laborious route to this much desired end is through decision and skilful manipulation, and I am further convinced that electrical science at least can furnish neither method nor appliance which will enable the careless and unskilful dentist to escape from the results of his own unprofessional incapability. As as much has been said as time will permit—much has been left unsaid—I will here leave the subject with you, at whose hands it cannot but secure an unbiassed and intelligent discussion.

Proceedings of Societies.

Eastern Ontario Dental Association.

By Geo. H. Weagant, L.D.S., Secretary.

The Thirteenth Annual Meeting of the Eastern Ontario Dental Association was held in the parlor of the Hotel Frontenac, Kingston, Ont., June 29th and 30th, 1892, the president, J. H. Parnell, L.D.S., in the chair.

Dr. R. E. Sparks introduced to the association Mayor McIntyre, of Kingston, who, in a very eloquent and courteous address, welcomed the members of the Eastern Ontario Dental Association to the historic city of Kingston.

The following gentlemen were admitted to membership in the society: W. H. Steele, L.D.S., Arnprior; Oliver Martin, L.D.S., Montreal; D. A. Black, L.D.S., Kingston; C. G. Stackhouse, L.D.S., Ottawa; C. D. Wartman, L.D.S., Napanee; C. A. Terry, L.D.S., Newmarket; A. H. Mabee, L.D.S., Gananoque.

The following members were elected officers for the ensuing year: J. C. Bower, L.D.S., Ottawa, President; A. A. S. Burns, L.D.S., Smith's Falls, Vice-President; Geo. H. Weagant, L.D.S., Cornwall, Secretary-Treasurer.

The retiring president's address was then read by Dr. J. H. Parnell, of Ottawa.

Thursday morning was devoted to clinics, held in Dr. R. E. Sparks' office. Dr. Brace, Brockville, demonstrated his method of making cast aluminum plates. Dr. Stackhouse, Kingston, gave a clinic on porcelain work, using Beacock's furnace. Dr. W. H. Steele, Arnprior, gave a clinic on administration of vitrous oxide gas.

At one o'clock p.m. the members of the association accepted an invitation to a complimentary sail among the Thousand Islands, tendered by the Kingston dentists. The day was perfect, and the trip was truly an enjoyable affair, and was made much more so by the presence of a number of ladies. Refreshments were served on board the boat. The party returned about seven o'clock.

In the evening the meeting was called to order at 8.30, and Dr. W. Geo. Beers, of Montreal, then read a paper upon "Some New Observations during Pregnancy and Menstruation."

Dr. Robertson—"Is there any danger in extracting with an anæsthetic during pregnancy?"

Dr. Beers—"I think not. If a woman is unconscious, there is no shock."

Dr. Hanna—"What are the dangers to fear in extracting during pregnancy?"

Dr. Beers—"The danger of abortion."

Dr. Hanna—"A woman came to me to have a tooth extracted to avoid abortion. She said she had already had three miscarriages on account of decayed teeth. Her physician had refused to extract the tooth for fear of miscarriage. I extracted the tooth, at her earnest request, and no accident occurred."

Dr. Sparks—"In case of the teeth of young girls, which begin to decay as menstruation occurs, with what would you recommend them to be filled?"

Dr. Beers—"I invariably recommend them to be kept in a thoroughly clean condition. Generally fill with gutta-percha, or oxyphosphates. Have no objection to fill with gold; but generally defer filling at that period."

Dr. Hanna, of Kemptville, read a paper upon "Treatment of Exposed and Devitalized Pulps."

Dr. Ira Bower—"Does Dr. Hanna find as good results in capping nerves in patients of the age of eighteen or twenty?"

Dr. Hanna—"I find no difference."

Dr. C. A. Martin—"What is the object in using gold, and not gutta-percha alone in capping?"

Dr. Hanna—"It was suggested to me as a result of experience in my own family. I found irritation was induced by gutta-percha alone. I also found the gums congested."

Dr. C. A. Martin—"You can always get gutta-percha, rolled between the fingers, to pass to end of root. Would you not be able to use gold, rolled in the same way, with chlora-percha, to be carried more easily to end of root?"

Dr. Hanna—"Would fear chlora-percha would pass entirely through canal."

Dr. Beacock, of Brockville, read a paper on "Micro-organisms," or, "Microbes, and what they are doing." (Will appear in next issue).—Ed.

Dr. A. A. Burns, of Smith's Falls, read a paper entitled "Excessive Hemorrage after Extraction."

Dr. Beers noticed in the *British Dental Journal* "that there was a decrease in the number of cases of severe hemorrhage after extraction." Also in cases of dysmenorhœa, hemorrhage is more liable to occur. Cobwebs, on account of being full of microbes, are dangerous to use in case of hemorrhage. The best styptic I know is the common puff-ball, or *Lycoperdon giganteum.*

Dr. Clements cited a severe case of hemorrhage after extraction, and method of stopping by the simple means of taking an impression, using warm beeswax.

Dr. McEllinney, of Ottawa, read a paper entitled "Electricity as Applied to Dentistry."

Dr. McEllinney also exhibited a number of ingenious electric appliances, including a lamp to be used in operations at night.

Dr. S. S. Davidson cited two very interesting cases in his practice.

It was decided to hold the next meeting of the association at Cornwall.

National Association of Dental Faculties.

The Ninth Annual Meeting of the National Association of Dental Faculties was held at the Cataract House, Niagara Falls, commencing Monday, August 1, 1892.

Twenty-six colleges were represented, as follows :

Baltimore College of Dental Surgery—R. B. Winder.
Boston Dental College—J. A. Follett.
Chicago College of Dental Surgery—Truman W. Brophy.
Harvard University, Dental Department—Thomas Fillebrown.
Kansas City Dental College—J. D. Patterson.
Missouri Dental College, Dental Department of Washington University—W. H. Eames.
New York College of Dentistry—Frank Abbott.
Ohio College of Dental Surgery—H. A. Smith.
Pennsylvania College of Dental Surgery—C. N. Peirce.
Philadelphia Dental College—J. E. Garretson.
University of Iowa, Dental Department—A. O. Hunt.
University of Michigan, Dental Department—J. Taft.
University of Pennsylvania, Dental Department—James Truman.
Vanderbilt University, Dental Department—W. H. Morgan.
Northwestern College of Dental Surgery—B. J. Roberts.
Louisville College of Dentistry—Francis Peabody.
Indiana Dental College—J. E. Cravens.
Northwestern University Dental School—E. D. Swain.
Dental Department of Southern Medical College—Wm. Crenshaw.
Dental Department of University of Tennessee—J. P. Gray.
School of Dentistry of Meharry Medical Department of Central Tennessee College—G. W. Hubbard.
University of Maryland, Dental Department—John C. Uhler.
Columbian University, Dental Department—H. C. Thompson.
Royal College of Dental Surgeons of Ontario—J. Branston Willmott.
American College of Dental Surgery—John S. Marshall.
University of Denver, Dental Department—George J. Hartung.

The *ad interim* committee reported that it had investigated a charge preferred against the University of Maryland, Dental Department, by the College of Dentistry of the University of Cali-

fornia, of graduating a person in less time than the rules demanded; that it found that no rule of the association had been violated, and had so reported to the parties in interest; that it had dismissed an effort for the reinstatement of the American College of Dental Surgery, Chicago, as not within the jurisdiction of the committee, with the advice to reorganize the college before attempting to influence the association to change its action, which reorganization has since been accomplished.

The committee also stated that its value in settling such matters had been made so clearly apparent that it recommended that it should be made a standing committee, to be elected by the association, instead of being appointed by the president.

The report was received and placed on file, and the recommendation with regard to the status of the committee was adopted.

The following resolutions, laid over from last year, were adopted:

Resolved, That in case of charges against any college, no final action shall be taken until all parties concerned shall have at least thirty days' notice.

Resolved, That at all future meetings of the National Association of Dental Faculties the delegates shall consist of members of faculties, and demonstrators will not be received.

The following resolutions, also over from last year, were laid on the table:

Resolved, That after June, 1893, the yearly course of study shall be not less than seven months, two months of which may be attendance upon clinical instruction in the infirmary of the school, now known as intermediate or infirmary courses.

Resolved, That after the session of 1892-3, four years in the study of dentistry be required before graduation.

The following resolutions lie over under the rules:

Offered by Dr. Winder,—

Resolved, That hereafter graduates of pharmacy be placed on the same footing as graduates of medicine, and be entitled to enter the second-year or junior class, subject to the examination requirements of each college.

Offered by the Executive Committee,—

Any college failing to have a representative present for two successive sessions without satisfactory explanation, shall be dropped from the roll of membership of this association.

The chair, having been asked for a ruling upon the admission of graduates of pharmacy to the junior class, decided that under the rules they could only be admitted to the first-year or freshman class.

The Executive Committee offered a report recommending the restoration of the American College of Dental Surgery to full membership, which, after an explanation by Dr. Marshall of the reorganization of the college, was unanimously adopted.

The Executive Committee reported on the application of the Western Dental College, of Kansas City, recommending that it lie over for one year. The report was adopted.

The report of the Executive Committee recommending the rejection of the application of the Tennessee Medical College, Dental Department, of Knoxville, Tenn., for irregularities in conferring the degree of D.D.S. and in the reception of students, was adopted.

The application of Howard University, Dental Department, Washington, D.C., was laid over for one year.

The following applications for membership, also reported by the Executive Committee, lie over under the rules :

United States Dental College, Chicago.

Homœopathic Hospital College, Dental Department, Cleveland.

Detroit College of Medicine, Department of Dental Surgery.

The report of the Executive Committee recommending that the Baltimore College of Dental Surgery be censured by the association for conferring the degree of Doctor of Dental Surgery upon Charles F. Forsham, M.A., LL.D., of Bradford, England, *in absentia* and honorarily, in violation of the rules of the association, was adopted.

Dr. Truman offered an amendment to the rule regarding the conferring of the degree of Doctor of Dental Surgery honorarily, absolutely prohibiting the exercise of that privilege to the members of the association, but the amendment was lost, after discussion, it being the general sense that the present rule is a sufficient safeguard against the unworthy bestowal of the honor.

Dr. Cravens offered the following amendment to the constitution, which goes over under the rules :

Amend Article VII. so that it shall read as follows :

ART. VII. Any reputable dental college, located in any State of the United States, may be represented in this body upon submitting to the Executive Committee satisfactory credentials, signing the constitution, conforming to the rules and regulations of this body, and paying such assessments as may be made.

The association adopted a protest against the classification of dentists as manufacturers, as provided in House Bill No. 7696, known as the Wilcox Bill, and against the collection of statistics from dentists under its provisions, on the grounds that dentists are not manufacturers in any sense, not being engaged in the manufacture, fabrication, or sale of any product having a merchandisable value ; that all the laws heretofore passed in the various States and Territories and the District of Columbia distinctly recognize dentists as professional men ; and that the attempt to collect statistics would be an injustice not only to them but to their patients, and that such statistics if collected would be valueless to the Govern-

ment because showing the products of a class of men not engaged in manufactures.

The following, offered by Dr. Winder, was also adopted :

Resolved, That the National Association of Dental Faculties recommends that their alumni write and demand of the Census Bureau of the United States the return of all statistical reports, as, under the recent agreement between the dental profession and said Bureau, lawyers, physicians and dentists are exempted from making statistical reports for the census of 1890 ; and that a copy of this resolution be forwared to the chief of the Census Bureau.

A communication from the Post-Graduate Dental Association of the United States, suggesting the establishment by the colleges of short courses of training and teaching especially designed and arranged for practitioners, was received and referred to the Executive Committee.

The manuscript of a Compend of Materia Medica and Pharmacy for Dental Students, by Dr. E. L. Clifford, of Chicago, was referred to the committee on text-books, with power to act.

Dr. Marshall offered the following resolution, which was adopted :

Resolved, That the secretary be instructed to notify the National Association of Dental Examiners that the National Association of Dental Faculties considers it out of its province to legislate upon the relative values of the L.D.S. and D.D.S. degrees.

The following were elected officers for the ensuing year : J. D. Patterson, Kansas City, President ; H. A. Smith, Cincinnati, Vice-President ; J. E. Cravens, Indianapolis, Secretary ; H. A. Smith, Cincinnati, Treasurer ; F. Abbott of New York, J. Taft of Cincinnati, and A. O. Hunt of Iowa City, Executive Committee ; James Truman of Philadelphia, Frank Abbott of New York, and Thomas Fillebrown of Boston, *Ad Interim* Committee.

The President appointed as the Committee on Schools, Drs. J. A. Follett, Boston ; S. H. Guilford, Philadelphia ; E. D. Swain, Chicago ; C. N. Peirce, Philadelphia ; T. W. Brophy, Chicago.

Adjourned to meet at the call of the Executive Committee.

Editorial.

Special Number.

The amount of valuable material presented at the various Associations, at this season of the year, has become so great that, in order to place it before our readers as early as possible, we have been forced to largely increase the size of this number. We feel, however, from the numerous encouraging letters we receive, that our efforts are being appreciated, and that there is an ever-increasing number of well-wishers to the national professional journal.

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DENTAL JOURNAL.

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Original Communications.

Microbes, and What They Are Doing.

By D. V. BEACOCK, Brockville, Ont.

There are three conditions requisite to produce septic fermentation, viz., warmth, moisture and microbes.

Pathogenic fermentation produces ptomaines. An open wound is a constant invitation to floating germs; these soon generate pus.

Now, what is pus? Ask any number of physicians or dentists, and note how the answers will vary. One says dead matter is pus. Another replies, pus is dead blood. One tells us it may be defined as the result of a pathological state, pyogenia. Another, the viscous matter of a sore, a well-known product of inflammation. Webster defines pus as the matter of an ulcer.

Dr. Thomas, in his medical dictionary, defines pus as a bland, cream-like fluid found in abscesses or on the surface of sores.

Dr. Robert Hunter, in his dictionary, states the word is from the Greek and Latin, and in the Sanscrit is called *puya*, meaning to stink. He says it consists of pus corpuscles, liquor puris, and other histological particles, and may be healthy or laudable, sanious, ichorous or watery, purulent or serous, and may become cheesy and ultimately calcify.

In Cleveland's dictionary we find pus defined as matter produced by suppuration, a cream-like fluid, heavier than water.

Virchow calls pus dead or destroyed tissue.

Dr. Black's is undoubtedly the best definition ever given us. He defines pus as the liquefaction of the plastic exudate, by the operation of microbes, death of the ameboid cells, from the changed chemical character of their matrix. Here we see the exudate or matrix of these ameboid cells so changed that it fails to support them; they die, and the resultant mass is pus. These cells are called white blood corpuscles or leucocytes when they are in the blood, when they are outside in the tissues, they are called ameboid or wandering cells. They pass into the tissues from the blood vessels by a process called diapedsis, which means a oozing through without rupturing the walls of the vessels confining them. These cells are the white blood corpuscles, or more properly undeveloped connective tissue walls, and one of their functions in nature is to repair injuries. The plastic exudate thrown out during the process of inflammation, forms the matrix in which these ameboid cells develop. They are always found imbedded in it, and it is absolutely essential to their final development into living tissue.

By ameboid properties is meant not only the capability of free movement, but the possession of a power which enables a cell to take foreign particles into its interior.

An exposed pulp is in a similar condition to an open wound, and both must be kept entirely free from contact with pus producing germs. If once they enter this plastic exudate, it begins to liquefy, its chemical character is changed, it fails to support the ameboid cells, consequently they die; they are then known as pus corpuscles.

In open wounds this process always takes place on the outer surface; these ameboid or undeveloped connective tissue cells continue to pile up in the form of living granulations, some of them floating away in the liquefying mass that ought to have formed their matrix. In this way the matrix or exudate is kept constantly filled with ameboid cells, tending to develop into healthy granulations. On the contrary, the liquefaction of some of this plastic exudate carries off some of these cells in the form of pus.

If the former exceed the latter process, healing by what is commonly known as first intention takes place; if on the other

hand, the latter process exceeds the former, destruction of tissue is the result.

The accumulation of the waste products of the pyogenic fungi occurs in the pus of abscesses, rendering it unfit for the continued growth of the fungi which produced it. The operation of the fungus thus becomes limited to the fresh exudates thrown in from the wound. This is in turn limited as the walls of the wound become more solidly packed with ameboid cells, that is, living matter which is not so readily attacked. Microbes of pus formation cannot maintain themselves continuously in contact with living healthy tissue. This is a plain proof that vitality is one of the best germicides. All pus, no matter where found, whether upon the surface, in closed abscesses, or situated deep within the living tissues, is filled with micro-organisms.

The aim of the modern surgeon is to obtain the healing of wounds without suppuration. To this end he eliminates all micro-organisms, and uses dressings to prevent the access of germs to the wound. The intelligent dentist applies the same principle in his treatment of exposed pulps. Chronic and acute inflammations and abscesses of the mouth are due to the same pathological conditions which produce like results elsewhere in the body.

Modern aseptic dentistry consists in sterilization by germicides, dessication, etc. A fresh wound, if made aseptic, will heal by first intention ; but if pyogenic germs are allowed to enter in any manner whatever, pus will be formed and trouble ensue, provided antiseptics are not carefully used.

In all those cases where the pulp chamber is opened for the first time, as in the removal of a living pulp, or a pulp destroyed by the operator, we should never have an abscess occur, indeed, it should be impossible except through direct infection.

An intelligent physician or dentist can now do almost anything he pleases, providing he conforms to aseptic and antiseptic methods.

In this way bacteriology may be said to have revolutionized the theory and practice of dentistry and medicine.

Aseptic treatment means to preserve a clean wound from septic infection. Antiseptic treatment simply means the prevention of further extension of existing trouble. The one may be said to prevent fire, the other to extinguish it. For a similar reason antiseptics are not disinfectants ; they do not destroy micro-organisms,

they only prevent or inhibit their growth. A germicide may be all three, antiseptic, germicide and disinfectant.

To the physiologist, bacteria are subjects of the greatest interest. Only think of the occult manner in which they produce the deadly and poisonous ptomaines, the mysterious character of fermentation, which is in numerous instances produced by them, lactic fermentation or the souring of milk, ammoniacal fermentation, vinous fermentation, the rotting of fish, meat and other nitrogenous substances: in fact, all putrefaction is the result of the ceaseless activity of these countless organisms.

When we investigate or carefully examine bacteria and their doings, from a pathological standpoint, we reach the very climax of wonder, wars, pestilence and famine. In fact, nature's most dire cataclysm sinks into insignificance compared with the destructive work of these pathogenic and infinitesimal organisms. It is fortunate for the human race that only a small proportion of bacteria, comparatively speaking, are pathogenic; the great majority are benign, their great work being for good in the world's economy. In acting the part of scavengers, they simply return the elements of organization back to their original source with renewed activities for newer and higher combinations.

Every man among us lives by changes wrought in the chemical constituents of his environment. Each one of us is daily producing changes in quantities of chemical compounds known as food material, and constantly giving it back to the material world in chemical forms completely changed. The microbe is doing no more or no less.

The pathogenic germ is man's enemy, the benign germ is his friend. Bacteria are necessary as well as useful, for without them our farmers and gardeners would have little better than a desert or barren waste to till. Even our digestion is to a certain extent dependent on the family of benign germs, and millions occupy every portion of our bodies, no doubt for a beneficent purpose, although we may not realize it.

Paradoxical as the above may appear at first sight, it is nevertheless true that many of these germs are physiological. Pasteur isolated no less than seventeen different micro-oganisms in the mouth; some of these dissolved albumen, caseine, and others converted starch into sugar. It therefore follows that the fermentative

change they produce in food is a most important feature in digestion.

Even the very pus that these micro-organisms have been so persistent in elaborating has a beneficial purpose as a remedial process, such as granulation, etc., and frequently takes the place of far more morbid processes. It also affords a mechanical means of removing foreign bodies, *e.g.*, thorns, splinters, bits of broken glass, etc., from soft parts into which they may have been driven, and likewise in the formation of abscesses, may sometimes serve to eliminate morbid matter from the system.

All nature moves in a continuous change of cycles. Grass and herbs spring from the earth, air and water ; herbiverous animals live and thrive on these, thus changing the constituents into other forms of food. These again are eaten by man and animals, and are again changed into other forms to be again transformed into other material, making food for microbes and finally returned to the earth from which they all originated. Thus we see the whole animal world may be said to be preying on each other; even one set of microbes are destroyed and eaten by others (phagocytism), and these again by others, so that Swift's couplet is quite applicable :—

> " The very fleas that do us tease,
> Have lesser fleas to bite them,
> And these again have lesser fleas
> And so *ad infinitum.*"

Out of the eight different processes by which the animal tissues are enabled to protect themselves against the action of bacteria, there are two which are very efficient, viz., phagocytism, and what may be denominated the bactericidal condition. Phagocytism, whether under normal or pathological conditions, is one of the manifestations of vis medicatrix nature. Under this condition, cellular activity prevents the development and increase of micro-organisms.

Under the latter a chemical condition is induced, which not only destroys microbes, reduces their nutrition, but retards their growth and multiplication.

It is by the activity of the ameboid cell or phagocyte that the gills and tails of tadpoles are removed during their metamorphosis.

Between the pyogenic microbe and the phagocyte there is a constant war even unto death.

Hess, to prove that the phagocyte cells were really aggressive in attacking pyogenic organisms, caused to be inserted, under the skin of a dog, a small capsule of glass with only a minute opening in one end. Into this capsule he had previously injected a quantity of Agar-Agar infected with staphlococci. The capsule, after a sufficient time, was removed from among the tissues. The phagocytes were found to be engorged with cocci.

You have all no doubt heard or read of Metchnicoff's vivid description of an abscess. He likens specific inflammation to a warfare, in which the invading army is represented by micro-organisms, and the resisting force by leucocytes. Even in details the analogy was maintained. Notice of the arrival of the invaders was telegraphed, so to speak, by the vaso-motor nerves ; the line of communication, the avenues of mobilization, were represented by the blood vessels. The aim of the invader is to secure the territory, to multiply rapidly, to live at the expense of the host, and to manufacture and circulate substances injurious to him. The aim of the resisting forces is to encircle the enemy, inclose him, digest him, and render him inert in battle. Many phagocytes die in the process, and if in large numbers, the heaps of the slain represent pus. An abscess therefore is a battle-ground, densely packed with dead bodies.

As dentists we have to admit that pyogenic fungi are ever present in the mouth, consequently every wound we inflict is in peril of becoming infected by them.

Dr. Miller says that every tooth extracted which is not performed under antiseptic precautions, is nothing less than an inoculation, and whether the subject proves refractory or not will depend upon a variety of circumstances, such as the size of the wound, resistance of the parts, the character and number of bacteria entering the wound, the health and vitality of the patient.

Dr. Sternberg says he found in his own mouth at all times, sufficient microbes in the saliva to kill a rabbit in twenty-eight hours after being injected.

Microbes produce disease by manufacturing substances by their physiological processes of growth and development, which is injurious to health. Many are found to be quite harmless, others are dangerous in the highest degree.

Microbes may be carried through the circulation to a focus of

inflammation, and there set up a suppurating process. For instance, if the ear of an animal is injected with pus forming microbes, a wound in the extremities of the body may become infected through the circulation.

It is quite evident that microbes may easily become the cause of many of our diseases. For instance, a wandering corpuscle from some suppurating tissue, getting entangled in some debilitated part of the system, begins its work of generation, and thus boils, carbuncles, swellings, and many other serious troubles result. These cells or corpuscles are not the cause, it must be remembered, until they have become demoralized by microbes or ptomaines.

It is still a matter of doubt as to what and how these ptomaines or waste products are produced. In many cases they are the excreta of microbes themselves, in other cases they are the result of the splitting up of more complex substance, or coalescing of simpler bodies by the disturbance of molecular state of the compounds caused by the growth of the micro-organism. Waste products of microbes are analogous to the waste products of the other forms of life. In a large proportion of cases they are active poisons. They are *always* poisonous to the form of life that produced them, that is, providing they exceed certain proportions. Strange as it may appear from the above, it will be seen that microbes actually manufacture their own germicides, as certain substances which they elaborate are the excreta of germs which are poisonous to them, just as the excreta of any animal is poison to it.

Prof. Hamilton asks: What is the immediate cause of putrefaction, and of septicemia, or blood poisoning, if bacteria are not? and states his belief that the cause is the resultant products of bacteria, known as ptomaines, which have been found to be crystalline alkaloids.

Dr. Black mentions that he has often passed a platinum suture wire, after making it red-hot, to disinfect it, into a foul root canal, and then into stiff cultivating media, four or five inches, and has seen the development of microbes along the track of the wire from one end to the other. Now, he asks, if these organisms can be carried into stiff gelatine in this way with a perfectly smooth platinum wire, what may we expect from a barbed broach thrust through a foul root canal into the healthy tissue beyond?

Prof. Miller states, in looking over the literature of the subject, he

had found fifty cases of death resulting from abscesses caused by diseased teeth, or from dental operations performed without proper antiseptic precautions; and says, doubtless there have been hundreds of such cases, but the practitioner is not willing to have them made public. Serious results may also follow the wounding of the soft parts of the mouth, by the accidental slipping of germ laden burs, drills, excavators, etc., while working on the teeth. A young lady graduate had the misfortune to accidentally wound her finger while using the dental engine. The wound proved fatal.

You will, no doubt, be inclined to ask, What has all this to do with dentistry? I can only answer, very little, to those who think our profession consists in simply knowing how to manipulate the gas-bag, forceps and vulcanizer. On the other hand, it means a great deal to those who look upon dentistry as being a branch of the healing art. The mouth being the portal, or entrance to the system, it exerts a much greater influence over our general health than either patients or physicians are willing to admit. Only think for a moment, that the mouth may at any time become the focus of infection in many ways, and thus lay the foundation for some of the most dangerous diseases, and some of the worst of these may be brought about by the dentist's inability or carelessness. It behoves us as dentists to make ourselves well acquainted with the science of bacteriology, for the literature of medicine is *filled* with triumphal records of aseptic and antiseptic surgery.

Anyone who has occupied himself with this subject knows that the loss of appetite, nausea, and general ill-health are often brought about by improper attention to the mouth, causing a chronic state of putrefaction, the products being absorbed by the mucous membrane, with serious results to the general health, and these patients finally retored to good health by simply putting the mouth in a normal condition.

Tuberculosis is an infectious disease that is readily conveyed from one person to another, and is caused by a micro-organism which attacks the lungs. Expectoration follows; the bacilli are in the sputa, these may lodge in a decayed tooth, on the gums, or in other parts of the oral cavity. Has it ever occurred to any of you that these micro-organisms may be conveyed from the mouth of a consumptive to the mouth of a healthy person, for it is said that when direct inoculation occurs by means of an instrument in the hands of a dentist or physician, it is almost certain to prove fatal?

I sometimes think we do not realize the fearful responsibility resting upon us as dentists in regard to this matter. Let me illustrate: We use the gum lancet, or extract a tooth in a mouth in which there are specific ulcers; the instruments are covered with infecting pus; we wipe or clean them off, or at least we think we do, and imagine that they are clean, while in reality they are in the best possible condition for inoculation; an innocent lady takes her seat in your beautifully upholstered chair, her gums are lanced, or a tooth extracted with this same instrument. What is likely to be the result, I ask, of such a slip-shod performance? I will leave you to draw your own conclusions, and say nothing of the long train of *unfortunate consequences* that may follow, even to *succeeding generations.*

It cannot be too strongly impressed upon our minds that all instruments should be not merely cleansed, but thoroughly *sterilized* after use, or the next confiding patient may become inoculated.

We should ever remember that the law of asepsis rules every part of the great territory of antiseptic work, and in no department more than in dentistry.

If cleanliness is next to godliness anywhere, it is certainly doubly so in the mouth.

Cases in Practice.

By S. S. Davidson, L.D.S., Ottawa, Ont.

In December last, Miss A. M. applied for relief from an aching tooth. Upon examination I found her suffering from a badly abscessed left upper central incisor, implicating the lateral, cuspid, bicuspids and first and second molars on the left side, the wisdom tooth not yet being erupted. All these teeth were in a very disgusting state, pus oozing from around their roots, and emitting an odor far from pleasant. She was wearing an artificial denture containing a right central, lateral and cuspid.

The history of the case as gleaned from the patient, was as follows:—Some two or three weeks previous she noticed the left central becoming sore to the touch, which gradually increased, the

tooth becoming loose with slight swelling of the surrounding tissues, accompanied by great pain. Living in the country, some distance from the city, she applied to the family physician, who lanced the gums immediately above the tooth, telling her that would remove the difficulty, and sent her home. However, the pain and swelling increased, and when she came to me her features were fearfully distorted, and the state of affairs mentioned before existing. I immediately removed all the teeth on the left side, getting a great discharge of pus. Upon probing I found the bone was also diseased; but as the diseased portion was not yet separated from the living, dismissed her for a week, giving her a wash of boracic acid, 1 oz. to a pint of water, with instructions to use frequently in order to keep the mouth clean. In a week I again saw her, and found the diseased bone still firm, and the discharge of pus still undiminished. Dismissed for another week telling her to still use the same wash.

On January 2nd, I next saw her and found the diseased bone had become separated. A physician was called in, chloroform administered, and the bone extending from the central to the first molar removed. After thoroughly cleansing by syringing with warm water and carbolic acid, 1 in 40, the cavity was plugged with lint saturated in boracic acid, and the patient dismissed with instructions to change twice daily. Saw her again in a week and found everything going on nicely. Healthy granulations had been thrown out and every indication that healing would be rapid. She was then told to discontinue the use of the lint plug and simply syringe the cavity twice a day with the boracic solution. On the next visit she complained of pain in the region where the central had occupied, and upon probing I found a smooth, pointed surface, which I concluded was a tooth, but as I could not under the circumstances arrive at any definite conclusion, she was asked to call again in a week, which she did, and I found a fully developed right cuspid occupying the position which the offending central had occupied. This was extracted. Healing went on rapidly after this, the cavity filling up with healthy tissue to such an extent that a casual observer would scarcely believe that such a large piece of bone had been removed. An artificial denture was inserted, and when I last saw the case, May 28th, there were no indications of any return of her trouble. No doubt exists in my mind but that the cuspid endeavoring to erupt was the exciting cause of the disturbance.

This is the only case of the kind that has ever come under my notice, and as it deeply interests me, I would like to hear from the members of the Association any similar experience which they may have had.

Case No. 2.—On June 14th, a physician practising in Ottawa, and well known for his hunting propensities, came to my office to have a lower wisdom tooth treated. After this was accomplished he asked me if there were any other teeth in that vicinity that required treatment. Examining the second molar I found what I thought to be an amalgam filling in the grinding surface, which had the appearance of years of service. I remarked that the filling in this tooth was still giving good service. He declared he never had a tooth filled, and never before had required the services of a dentist. Upon closer examination I found the cavity filled with a grain of No. 4 shot. This had been jammed in so hard that it completely stopped the opening to the cavity. Around the edge an oxide had formed, and to all appearance was preserving that tooth as well as the most carefully inserted gold filling. The only way the worthy doctor could account for it, was in eating a tempting morsel of wild duck, of which he is very fond. The shot being imbedded in the meat, had been crowded into the cavity unknown to him and there remained. Strange to say, he would not have it removed and replaced by a more costly filling, remarking, "That is good enough for me."

Osseous Union of Temporary Teeth.

By W. A. ROBERTSON, D.D.S., Cookston, Minn.

While fusion of the teeth is uncommon, specimens are to be met with in almost every dental collection, showing that it occurs often enough to make it of practical importance to the dental practitioner.

Having just come into possession of an interesting specimen of this class, I thought it might be of interest to some of your readers to have it described. This specimen is of particular interest from the fact that one of the teeth is a supernumerary, and

as the teeth belong to the temporary set, it is of somewhat rare occurrence, so that a short history of the case may not be amiss.

About three years ago the patient was brought to us by his mother to have some filling done on his front teeth. We were struck by the fact that there were five superior incisors, there being three on the left side, two of which overlapped and were decayed. Upon preparing them for filling we found they were united, and drew the attention of the mother to this fact, at the same time asking her to save them for me when they were taken out. A few weeks ago they became so loose and sore that the application of a thread was all that was necessary to accomplish their removal.

Upon close examination there is perfect union of the roots, one of which is considerably absorbed while the other is almost entire. There is a shallow groove in front and a deeper one behind, showing the point of union of the roots. The fusion is perfect from the cervical margin to the apex of the root, and has the appearance of having originally included the crowns as well, but owing to the enamel being underminded by decay and broken away, it is not complete now.

In a case like this we might expect to find an extra permanent incisor, on the ground of the accepted theory of development of the permanent teeth, viz., from the cords of the temporary teeth, and we will watch this case with interest on that account, and report if such is the case.

The teeth are both well developed and are almost uniform in size, so that it is impossible to say which is the supernumerary.

There is described in the American System of Dentistry (page 419, Vol. III., fig. 115), a case very nearly similar, and the cut conveys a good idea of this one except that there are three teeth in place of two. It is from the collection of Dr. Douglas, Rosino, Michigan, and is the only one I can find recorded of union between a supernumerary and central incisor of the temporary set.

A Convenient Method of Replacing a Broken Tooth on a Gum Section.

By R. E. Sparks, L.D.S., Kingston.

Cases are often presented of gum sets having one or more teeth broken, but in which the gum is uninjured.

With a corrundum wheel on lathe or engine, I cut out the balance of the tooth around by the artificial gum margin, leaving the gum intact. I then grind a plain tooth to fit, and attach as in any ordinary case. This saves the expense and risk of replacing the whole block ; also, the time and inconvenience of cutting through the gum to the top of the block and fitting in a gum tooth. Furthermore, the joint is much less conspicuous.

Eclectic and Speciality Dentistry.

By Oliver Martin, L.D.S., Ottawa, Ont.

Up to the present time the dental profession differs from the medical profession, which has been divided into a number of branches, or specialities, in order to arrive at greater perfection. Although this had been mentioned by dentists some years ago, and lengthy arguments for and against this system of practice raised, it appears that the eclectic principle proved itself the favorite, not, however, without careful analysis in order to discover if they were not losing a step in advance ; and after mature consideration, the dentists came to the conclusion that the more general knowledge and practice possessed by each dentist, the better fitted was he for any special branch, that it increased his judgment, and rendered his hands more skilful. There is no doubt this is the correct view, one that practice has rendered infallible, still it is difficult for certain temperaments to be eclectic ; and dentistry, in spite of the desire to be eclectic, is, to some extent, a speciality. Very few dentists but have a fancy and appear to succeed better with a particular kind of work ; whether better adapted by nature for a

certain style of work, or the force of mere fancy, remains to be seen. It is, however, true that after being instructed in all the modern branches of the dental art, in the dental colleges, they, after a few years' practice, fall into a special groove and lose the skill of eclectic practice. Why, we find dentists in every direction differ in opinion on the merits and demerits of certain ingredients, the use of rubber in preference to gold, the great value of amalgam, the superiority of soft gold over adhesive, and the reverse; in fact, all that is used by the dentist has been censured by the dentist—yet we will know the true value of all. If we take the dentist who has abandoned metal work for rubber, he recommends it to all his patients as the only true base, simply because he has become skilful with rubber, at the sacrifice of all other kinds of work. Another says: "I do not believe a perfect filling can be placed in a tooth with any other kind of gold but soft gold. I have never been as successful with other forms of gold as I have with sponge." "Adhesive gold makes the strongest filling," says another; and so on, from the ingredients used in the treatment of teeth to the base for artificial teeth, the cause is the practice with any one or the other of these preparations, which make the dentists better acquainted with their peculiarities, and enable them to manipulate with more skill. I well remember the introduction of shred gold, and my first attempt in its use, although I did not there and then condemn it, yet it was a failure; but with practice I found it to be a very useful form of gold. It is the same with the heavy plate gold for finishing a filling. Knowing in what manner sponge gold was made, I often suspected the presence of a trace of acid, which has frequently produced a slight discoloring of the tooth around the filling. I placed my sponge gold in spirits of ammonia for one night, and when dry, passed it through the flame of a spirit lamp; after this it worked and answered beautifully. When a dentist makes himself acquainted and skilful with the different forms of gold, his table is always supplied with them for special cases, and the ability of working them all with equal skill proves such a man of greater skill than the speciality dentist. It is admitted that with many great efforts are required to keep up the eclectic system; still, when young he can frame his organization to it, and by understanding its great value, never abandon it. As regards

artificial teeth, every dentist should have a specimen of the different kinds of work, so as to give his patients an opportunity of selecting, as much depends on their fancy for their successful use. The difference in price often changes this fancy, still the dentist who can show a specimen of every kind of work known at the present time, is thought more of by his visitors. Often the patient says : " I do not like the appearance of rubber. I do not object to the price if you can give me something that I like better." When the dentist cannot accommodate such a patient, it places him in rather an awkward position. If it is not possible for a dentist to be skilled in all branches of his profession, let him keep in practice as many as he can. These remarks apply more to the young and active practitioner than to the old dentist who has fixed ideas and fingers that cannot change. In all that has been used in the treatment of teeth, many good and valuable medicines have been discarded for want of knowledge or practice with such to enable the dentist to understand its peculiarities. True a number have been introduced that have shown no superiority, after a careful test, to ingredients that the dentists have been well acquainted with for many years. If we take creasote for example, it has not been excelled for the treatment of teeth. Its soothing effect is like magic ; it will arrest decomposition more effectually than all the medicines that have been introduced to take its place. If we look at its composition, it speaks for itself. We know the power of charcoal as a disinfectant. It will prevent the decomposition of meat. Smoke is a carbon in the form of a gas or vapor, produced by the burning of vegetable matter ; the oil of creasote is extracted from this gas, which is a carbon in a concentrated form. This is why its power is so great in arresting decomposition, the decay being the irritant to the nerve fibriles that permeate the tooth bone. The quickness of creasote to check decomposition or quiet the irritant is indicated by the removal of pain ; mixed with a little tannin, it mummifies the decayed matter. A few drops of alcohol mixed with it, to increase its penetrating power, will cure any abscess. The name of methyl has been given to this mixture. A mixture of creasote, tannin, and alcohol will mummify a canary bird immersed in this composition for twelve hours, without changing a feather. It acts on the decay in the same manner. When preparing a tooth for the filling, the cavity should be touched with

creasote, or creasote and alcohol, to clarify the inside of the cavity of every particle of loose matter. There is no doubt, however, but it renders the bone brittle, when used too frequently in a tooth. Creasote up to the present time has not been excelled ; there are, however, many improvements in medicine, all of which, like a new instrument, require practice in order to use them successfully, and this is what gives the eclectic dentist the constant practice in every branch of the profession.

Proceedings of Dental Societies.

The Fourth Annual Meeting of the Ontario Dental Society.

The fourth annual meeting of the Ontario Dental Society was held in the lecture room of the Y.M.C.A. building, Toronto, on July 19th and 20th. The meeting was opened on Tuesday afternoon at 2.30, with the Vice-President, Dr. H. R. Abbott, of London, in the chair.

The minutes of the last annual meeting were read and adopted.

Drs. Hipple and Beam were appointed auditors, and after they had completed their work the Treasurer presented his report, which was received and adopted. The election of officers for the year was then proceeded with, resulting in the election of the following : President, Dr. H. R. Abbott, London ; Vice-President, Dr. W. A. Leggo, Ottawa ; Secretary, Dr. W. E. Willmott, Toronto ; Treasurer, Dr. F. Kilmer, St. Catharines ; Executive Committee : Drs. Hipple, H. Wood, A. H. Allen, J. Stirton, together with the officers of the Society ; Membership and Ethics Committee : Drs. Pearson, Beam, and Bosanko.

TUESDAY EVENING—8 o'clock.

As Dr. McElhinney, of Ottawa, could not be present, Dr. F. J. Brown, of Port Hope, read a very interesting and instructive paper on "Electricity, its Application to Dentistry." This seemed to be rather an unfamiliar subject, as the paper provoked very little discussion.

The retiring President's address was due next, but as he was not present, Dr. W. E. Willmott filled in the time with a paper on "Antiseptics."

DISCUSSION.

Dr. C. N. JOHNSON (Chicago)—Was surprised to hear that quotation from Dr. Stubblefield's paper, as he had always considered hydrogen peroxide of no value when it showed an acid reaction. Always thought neutral sample would work better. Would say nothing about aristol, as he had not used it, but of the other powder antiseptics preferred iodol. Gave a case where a very severely lacerated wound healed rapidly and satisfactorily under iodol. Very rarely used iodoform. Considered a dental office bad enough for the patients no matter how comfortably furnished and how pleasant a perfume, without making it smell worse than any drug store, with iodoform over the drawers and instruments. Impressed upon the members the great necessity for thoroughly antiseptingt their instruments after each patient, and recommended a solution of boro-glycerine as the best. Would warn the members to be very careful in injecting hydrogen peroxide into an abscess unless there was a free opening for the escape of the gases.

Dr. N. PEARSON (Toronto)—Wanted to say something good for peroxide. Had had very satisfactory results from treating abscesses through the sinus.

Dr. R. G. MCLAUGHLIN (Toronto)—Tried peroxide in several cases as Dr. Pearson mentioned, and had satisfactory results from some, but others were quite unsatisfactory. These he injected with campho-phenique after the peroxide and was pleased with the results. Asked Dr. Johnson what he considered the best drug to use in cases where the pulp is not quite dead to facilitate its removal.

Dr. JOHNSON—Considered a solution of tannic acid in glycerine the best he had come across for that purpose.

Dr. F. J. CAPON (Toronto)—Had experimented with aristol and cassia in cases of pyorrhœa with very satisfactory results. Would never be without campho-phenique in his office. Recommended the wire brush on the engine for cleansing burs and did not think it impaired the cutting edges in any degree.

The President then called on Dr. Bosanko for his retiring President's address. The doctor read a very interesting and profitable paper on "Dentistry on the American Continent." After a few remarks on the paper by Dr. C. A. Martin, Ottawa, the meeting adjourned.

WEDNESDAY MORNING—9.30 o'clock.

Meeting opened with Vice-President in the chair. An animated and profitable discussion was provoked by a paper prepared and read by Dr. J. Stirton, of Guelph, on "Diagnosing Diseases of Teeth."

DISCUSSION.

Dr. H. T. WOOD (Toronto)—Was very much pleased with the paper, and little was left to be said. It showed the advancement made in dentistry in the last twenty years. Pleased such an admirable paper should be written by one of our own young practitioners. Dentists were called on to do more than the ordinary physician, he has to go beyond the present feeling of his patient. Never depends altogether on what a patient tells him ; he may take their word as a foundation, but must go further, and see ahead to prevent future trouble. When a patient presents for examination, the first thing is to cleanse the teeth thoroughly, and then look carefully for caries. Removing the tartar, and polishing off the discolorations, often discloses cavities which otherwise would not be noticed, and of which the patient is ignorant. This would prevent the annoyance of the patient coming back in a few months showing a cavity, and wondering why the operator had not seen it before.

Dr. W. A. LEGGO (Ottawa)—Thought the noticing decay by the color was a very important point, and impressed the idea of polishing off any discoloration on the tooth to show any color of decay.

Dr. F. G. CALLANDER (Toronto)—A dentist is supposed to know the normal state of a tooth, and when an abnormal condition presents he should be able to spot it, and then endeavor to restore it to the normal. He must be familiar with every tint and color of the normal tooth. First free from foreign deposits, and get the true shade of the tooth. Many cases of caries are due to child

diseases, and generally are associated with some constitutional disturbances. Knowledge from experience is the only guide in these cases. Reading cannot do all, but we must be observant, and put the observations into practice.

Dr. D. V. BEACOCK (Brockville)—Was sorry for the loss of those six teeth. Would have diagnosed them as pulp stone and treated for same. Would have tried it at any rate, and if that did not relieve the trouble, it would be time enough then to extract.

Dr. W. A. LEGGO—Would like to have a discussion of the treatment of such cases, even though outside the scope of the paper. Thought it impossible to save some teeth in this condition on account of the restricted state of the root canals.

Dr. F. G. CALLANDER—Had a case thirty years ago—a lady suffering intensely. Could see no defect in the tooth. She was determined to have it out; he would not extract it, so she went to a physician, and had not only it but at times another and another, till every one was out, giving her temporary relief after each extraction, and in the end the pain was even worse than before any tooth was taken out. Had several cases since where pulp ossification was suspected, and on examination found to be so. Has removed as many as five nodules from one tooth, which relieved the pain.

Dr. A. H. HIPPLE (Stratford)—Would like to know any way in which he could diagnose between exostosis and pulp nodule.

Dr. BEACOCK—If no other cause can be found for the ache, and you suspect pulp nodule or exostosis, enquire whether it aches worse at night after the head has been lying at rest for some time and then moved from side to side for a few moments. If so, it is not likely to be exostosis, and it would be wise to drill in and see. If that relieves the pain all right, you have the tooth in place; if it does not, then you have the satisfaction of knowing you have done your best and then, and only then, would extraction be allowable.

Dr. F. J. Brown (Port Hope)—Thought the case in question might have been a reflex action, due perhaps to some derangement of the stomach.

Dr. F. KILMER (St. Catharines)—Had a case of a gentleman seventy-four years old. An intense ache in the upper left second

bicuspid ; no decay ; no soreness on pressure, but if pressed over the root high up it gave intense pain, and pressure on the infra orbital foramen gave pain. Sent him to a physician for constitutional treatment. Came back in three weeks and insisted on the tooth coming out ; took it out ; after two months the same pain. Was sure the tooth was not affected, but the trouble was due to some nerve irritation apart from the teeth. Would not extract it, so patient went to another operator and had it out ; in six months just as bad as ever. Thought the cause must have been from the closure of the foramen through which the nerve passed.

Dr. JOHNSON—Considered the paper the best he had heard before the Society. In regard to the case cited, he agreed with Dr. Beacock ; was satisfied if the essayist had broken open the teeth he would have found a nodule inside. Never sent a patient to a medical man unless he could have a consultation with him before he saw the patient. In answer to Dr. Hipple's question, he would diagnose a pulp nodule by exclusion. If no caries, no tartar, no marked pain on application of heat and cold, nothing in the mouth or out to point to neuralgic pain, and the teeth solid, firm, and healthy, then nine times out of ten you would find a pulp nodule. Drill and treat ; if no relief then, extract, and exostosis is sure. With regard to the mention of secondary dentine, he thought there were two kinds, either pathological or physiological. On approach of caries or irritation to the nerve there is physiological secondary dentine formed, but pulp nodules or secondary dentine growing into the pulp chamber, irregular in form, is undoubtedly pathological.

Dr. Stirton answered the criticisms in a few words, and the meeting was presented with the report of the Membership and Ethics Committee, recommending several candidates for membership. On a ballot vote they were all elected.

Dr. Johnson invited the Society to visit Chicago during the World's Fair, while the International Dental Congress was in session.

Dr. A. H. Weagant, of Cornwall, read a splendid paper on "Copper Amalgam." The discussion was opened by Dr. R. G. McLaughlin, Toronto, who considered this subject next in importance to the question of root filling. There are two kinds of persons on this subject—those who will have nothing to do with

copper, and those who make a hobby of it. Used it for a few months in the beginning of his practice, but gave it up. However, after some experiments with it, he began again, and the more he uses it the better he likes it. Operators are more likely to make a mistake with copper amalgam than with any other kind. There is a danger of getting it too dry, but there is one comfort in that case, because you know the filling will not be a success. Found that it will not discolor the tooth. The fact that it cups on the grinding surface shows either it is not hard enough to withstand mastication or it was not manipulated properly.

The essayist answered several questions. Numerous cases were cited both in favor and against, but the general consensus of opinion was that for certain cases there is nothing better, especially in buccal and proximate surfaces where the grinding surface is not implicated.

On motion of Dr. Pearson, seconded by Dr. Hipple, the names of Dr. C. N. Johnson, of Chicago, and Dr. W. G. Beers, of Montreal, were placed on the list of honorary members.

Meeting adjourned.

Dental Association, Province of Quebec.

A most interesting and important convention of the dentists of this province was held on the 27th September, in Montreal. The following licentiates were present : Messrs. Brewster, Trestler, Beers, S. Globensky, J. Globensky, Leblanc, Andres, E. B. Ibbotson, J. Ibbotson, McDiarmid, Berwick, J. C. Nichol, S. Nichol, Brown, Barton, Gentles, Labonte, Maufette, Bernier, Giles, Fitzpatrick, Kerr, Sears, Brosseau, Bourdon, Gendreau, McLean, Young, Dixon, Vosburgh, Pepin, of Montreal ; Casgrain and Dorval, of Quebec ; Wells, of Huntingdon ; Porter, of Danville ; Moulton, of Stanstead ; Cleveland, of Richmond ; A. W. Hyndman, L. Hyndman, of Sherbrooke ; Stackhouse, of Lachute ; Lauder, of Cowansville ; Sutton and Jenks, of Coaticooke ; Lanthier, of Three Rivers ; Brassard, of St. John's ; Nolin and Mongeon, of Sorel ; Dr. Beers, President of the Board of Examiners, in the chair.

After the usual routine business the Treasurer, Dr. S. Globensky, read his report, showing the most favorable balance in hand that has existed since the Association was organized twenty-three years ago, in spite of a succession of onerous law suits, heavy expenses in obtaining new legislation, etc. The Secretary, Dr. Bourdon, read a full report showing the great increase in the number of dentists in the Province, and the exceptionally large number of about eighty students. The loose system of matriculation under the old law made easy entrance to the profession. Owing to certain discreditable means used by a few to impose upon the ignorance of the public, by quack advertisements, and false representations circulated in the public streets, the following obligation was now imposed upon all graduates : "I—— do solemnly promise and swear that I will uphold the honor and dignity of the profession, and adhere to the by-laws and rules of the Dental Association of the Province of Quebec to the best of my ability." The Secretary further referred to the immense labor which fell upon the retiring Board, in securing legislation, as well as in litigation and the success achieved. Mention was made of the imposture practised by a student upon the members of the Local Legislature, in stating falsely that he possessed certain qualifications to consideration for a Private Bill, and its indignant rejection by the Legislature, owing to the opposition of the Board.

The President then gave his retiring address, recapitulating the sound financial position, and paying special compliments to the Secretary and Treasurer for their zealous labors. No previous Board—and the speaker had been on the Board ever since its organization—had been called upon to make such personal sacrifices in promoting

THE CONSOLIDATION OF THE PROFESSION

as well as in protecting the public from the expert charlatan, whose moral conscience was too low to aspire to professional decency. The organization of the Odontological Society had proved a great success under the guardianship of its first president, Dr. E. B. Ibbotson, and its present chief officer, Dr. F. A. Stevenson. The Montreal General Hospital had appointed Dr. R. H. Berwick on its staff as dentist ; a strong feeling in favor of better means of education prevailed, and the organization of "the

Dental College of the Province of Quebec" was an assured success. Nothing in his experience on the Board gave him greater satisfaction than the perfect harmony which had existed unbroken for twenty-three years between the two nationalities in the profession, and the generous courtesy extended by the French officers of the Board to their English brethren who did not clearly understand the French language. The President then gave a hasty review of the amendments to the Act of Incorporation, which, with the by-laws of the Board, in English and French, would be placed in the hands of every member within a few days. The Board, empowered by the Act, had passed a resolution to ask for affiliation of the College with the Universities of McGill and Laval for the purpose of obtaining the degree of Doctor of Dental Surgery ; and it is now necessary that any person in future wishing to study dentistry, must pass the matriculation for admittance to the study of medicine, before the regular examiner of these universities only and before indentureship. All students who have not already followed the lectures are obliged to attend the required lectures in anatomy, physiology and chemistry at McGill or Laval, which open in the beginning of next month.

The College had leased the building, No. 2 Phillips Square, and will begin the course on Wednesday, November 2nd, at 8 p.m. ; the Act of Incorporation making attendance compulsory upon all students who may present themselves for examination to practise dentistry in this province, while its course would be open to those intending to go forward for the degree of D. D. S. There were difficulties to contend with. That was just what gave zest and strength to those who had undertaken the work. As for any petty opposition, it would find an early grave. The College must exist, and the public

MUST HAVE EDUCATED DENTISTS,

and anyone who opposes this demand must simply stand aside, whether they like it or not. The profession had too long endured the reproach of forcing their students to leave the country to get a college education ; and while fully conscious of the responsibility, and modest in their pretensions, the men who had undertaken the duties as teachers were determined to do their duty, and to do their best. The provisional appointments to the four chairs were

then announced, and Dr. E. B. Ibbotson moved, seconded by Dr. J. C. Nichol, a resolution, which was unanimously carried, that the meeting cordially approved of the work done by the Board, and confirmed the organization of the College and the appointments made, and expressed the hope that the details would be developed harmoniously, and that the profession generally would stand by the College. On motion the sum of five hundred dollars was voted as a contribution from the Association to the equipment fund of the College. Dr. McDiarmid offered to be one of five to contribute $100 each. Dr. Brewster and three others offered $100 each. It was then moved by Dr. C. H. Wells, of Huntingdon, and resolved, "That this meeting, representing the dental profession of the Province, express its disapprobation of all unprofessional methods of advertising, which not only in themselves savor of quackery, but are resorted to for the purpose of imposing upon the unsuspecting public by false representations."

DR. WELLS ECHOED THE SENTIMENTS

of every honorable member of the profession in exposing the tricks of the boastful advertiser. It was not intended to prevent modest and reasonable advertising, should one wish to do so ; but to show that, in every country, this scheme of entrapping the public by theatrical tricks of advertising was immoral and dishonest, and no reputable practitioner ought to find such methods necessary. Dr. Nolin suggested that the Board consider the advisability of voting by proxy.

The choice of a new Board of Examiners for the next three years was then proceeded with, by ballot, and resulted in the election of Messrs. Beers, Globensky, J. C. Nichol, and Gentles, of Montreal ; A. W. Hyndman, of Sherbrooke ; Casgrain and Verner, of Quebec—Dr. Beers stating that he would not consent to retain the position more than a few months on account of the College. The meeting then adjourned.

THE FOLLOWING APPOINTMENTS

have been made to the College : W. Geo. Beers, Dean ; J. H. Bourdon, Registrar ; R. H. Berwick, Treasurer. The lectures are to be given in English and French, as follows : Professors of dental pathology, therapeutics, and materia medica, W. Geo. Beers, L. J.

B. Leblanc. Professors of dental prosthetics and metallurgy, S. J. Andres, S. Globensky. Professors of dental surgery and general pathology, R. H. Berwick; other appointments yet to be made. Professors of operative dentistry, F. A. Stevenson, J. H. Bourdon. Dr. Chas. Brewster, C. F. F. Trestler, Jas. A. Bazin, and H. D. Ross were elected honorary professors. The following gentlemen have consented to act in the important work of clinical instructors: J. C. Nichol, G. W. Lovejoy, N. Fiske, E. B. Ibbotson, J. Ibbotson, F. McDiarmid, J. G. A. Gendreau, P. Brown, J. Globensky, J. Gentles, A. H. Beers, W. J. Giles, Montreal; H. D. Ross, E. Casgrain, T. A. Venner, H. Jenks, J. Paradis, Quebec; C. H. Wells, Huntingdon; A. Lanthier, Three Rivers; J. Lauder, Cowansville; A. W. Hyndman, J. Hyndman, Sherbrooke. The following gentlemen were elected honorary clinical instructors: Dr. D. V. Beacock, Brockville; Fred. I. Capon, Toronto; and George K. Weagant, Cornwall. A special instructor, a graduate of Chicago Dental College, has been appointed to introduce the system of operative technique taught in that fine institution. Drs. Lovejoy and McDiarmid kindly presented over $200 worth of materials, and in discounts saved the College about $500 in the purchase of chairs. Dr. Newell Fiske presented an operative chair and a vulcanizer. Dr. P. Brown gave a part of the electrical apparatus, besides doing the fitting of the entire equipment. Dr. Brown will demonstrate the applications of electricity to dentistry, which he has made a special study.

Dental Association of Nova Scotia.

The second annual meeting of the Dental Association of Nova Scotia was held at Halifax, N.S., September 28th and 29th, 1892.

The officers elected for the ensuing year are: A. C. Harding, Yarmouth, President; H. E. Eaton, Parrsboro', First Vice-President; H. Clay, Pugwash, Second Vice-President; Frank Woodbury, Halifax, Secretary. W. C. Delaney was elected representative to the Dental Board.

The meetings throughout were of more than ordinary interest. Papers were read by A. C. Cogswell, entitled, "Dentistry, Past,

Present and Future"; F. W. Stevens, entitled, "Preservation of Deciduous Teeth"; M. P. Harrington, entitled, "Devitalization of the Dental Pulp and Filling Root Canals"; A. J. McKenna, entitled, "Necrosis"; F. W. Ryan, entitled, "Symptomotology"; H. Woodbury, entitled, "Crown and Bridge Work"; W. C. Delaney, entitled, "Dentistry as a Fine Art." The papers were all of a high order and provoked much discussion. A clinic was given by F. Woodbury. It consisted of filling a root with nerve canal open at apex, and setting a Bonwill crown. A resolution was passed that the papers read before the Association be published in pamphlet form, for distribution among the members of the profession in the Province.

The S. S. White Dental Manufacturing Company made a very fine exhibit of instruments, supplies and electric appliances before the Association.

A resolution was passed thanking them for the exhibit, and requesting that they make a similar display at the next annual meeting.

The Dental Board held its annual meeting for organization, on September 28th. The members are as follows: A. C. Cogswell, President of Board; H. Woodbury, George Hyde, J. A. Merrell, M. P. Harrington, W. C. Delaney; Frank Woodbury, Secretary-Registrar.

The next annual meeting of the Association and Board will be held in Halifax, in September, 1893.

FRANK WOODBURY, *Secretary.*

137 Hollis Street, Halifax, N.S.

National Association of Dental Examiners.

The eleventh annual meeting of the National Association of Dental Examiners was held at Niagara Falls, commencing Monday, August 1, 1892.

The sessions were presided over by the Vice-President, Dr Magill, the elected President, Dr. L. D. Shepard, of Boston, explaining his resignation from the State Board of Massachusetts,

which necessarily carried with it his resignation of the presidency of the Association. The resignation was accepted with regret, and Dr. Shepard was unanimously accorded the privileges of the floor.

The following State Boards were represented at the sessions:

Colorado—George J. Hartung.
Georgia—D. D. Atkinson.
Iowa—J. T. Abbott, J. B. Monfort.
Indiana—S. T. Kirk.
Maryland—T. S. Waters.
Minnesota—L. W. Lyon.
Massachusetts—E. V. McLeod.
New Jersey—Fred. A. Levy.
Ohio—Grant Mollyneaux, Grant Mitchell.
Pennsylvania—W. E. Magill, Louis Jack, J. A. Libbey.
Tennessee—J. Y. Crawford,
Wisconsin—Edgar Palmer.
Kansas—A. H. Thompson.

The following Boards were admitted to membership:

Virginia—J. Hall Moore.
North Carolina—V. E. Turner.
Oklahama—D. A. Peoples.
South Dakota—C. W. Sturtevant.
District of Columbia—Williams Donnally.

At the instance of the Committee on Colleges, the following communication was sent to the National Association of Dental Faculties:

NIAGARA FALLS Aug. 1, 1892.

To the National Association of Dental Faculties.

GENTLEMEN,—Whereas, a very considerable abuse has arisen by the improper use by students of the various certificates of the schools, such as the "standing" and "passing" certificates, to support students and graduates under age in their attempt to illegally engage in practice; we therefore ask your Association to request the various colleges to have their "standing" and "passing" certificates of such uniformity of terms in each case that they can be

used for no other purpose, and that they be printed in few words and small type, and be signed only by the Dean.

Respectfully,

NATIONAL ASSOCIATION OF DENTAL EXAMINERS.
FRED. A. LEVY, *Secretary.*

A Committee of Conference was appointed, consisting of Drs. Truman, Marshall, and Swain, on the part of the Faculties' Association, and Donnally, Palmer, and Monfort, on the part of the Examiners' Association, which, after consultation, agreed upon a favorable report.

Dr. Lyon offered the resignation of the Minnesota Board, which was laid upon the table, as it had evidently been offered as the result of a misunderstanding, and the Board was requested to withdraw it.

The following resolution, offered by Dr. Crawford, was adopted:

Resolved,—That when a member of any State Board becomes a teacher of a dental school, his resignation from his Board should follow.

A resolution protesting against the classification of dentists as manufacturers, and the collection of census statistics from them under the provisions of House Bill No. 7696, commonly known as the Willcox Bill, was adopted. The resolution was similar in terms to those adopted by other dental societies.

The Committee on Colleges reported that they had received reports showing that the actual number of students in attendance at the last sessions in the schools recognized by the Examiners' Association was 2,881; of graduates, 1,357. In the schools not recognized by the Association the students were 236; graduates, 96.

The report also considered desirable advances to be made in educational methods, and offered the following memorial, which the Secretary was directed to transmit to the National Association of Dental Faculties:

The National Association of Dental Examiners would respectfully memorialize the National Association of Dental Faculties to authorize two advances in the system of dental education.

These are: First, that your Association require the universal enforcement of a higher grade of preliminary education of candi-

dates for matriculation. This proposition lies at the foundation of dental education, in which is involved the quality of the graduates of the future, upon which depend the advancement, the standing, and the dignity of the dental profession.

The second proposition is that complete preparation be made in each school for laboratory technique in the studies of histology, pathology, and in each of the departments of dental surgery and dental prosthesis, and that this method of teaching be made a requirement of the schools.

The committee also reported the following amended list of colleges which they recommend as reputable :

Baltimore College of Dental Surgery, Baltimore, Md.
Boston Dental College, Boston, Mass.
Chicago College of Dental Surgery, Chicago, Ill.
College of Dentistry, Department of Medicine, University of Minnesota, Minneapolis, Minn.
Dental Department, Columbian University, Washington, D.C.
Dental Department, National University, Washington, D.C.
Northwestern University Dental School.
Formerly Dental Department of Northwestern University [University Dental College].
Dental Department of Southern Medical College, Atlanta, Ga.
Dental Department of University of Tennessee, Nashville, Tenn.
Harvard University, Dental Department, Cambridge, Mass.
Indiana Dental College, Indianapolis, Ind.
Kansas City Dental College, Kansas, Mo.
Louisville College of Dentistry, Louisville, Ky.
Missouri Dental College, St. Louis, Mo.
New York College of Dentistry, New York City.
Northwestern College of Dental Surgery, Chicago, Ill.
Ohio College of Dental Surgery, Cincinnati, O.
Pennsylvania College of Dental Surgery, Philadelphia, Pa.
Philadelphia Dental College, Philadelphia, Pa.
School of Dentistry of Meharry Medical Department of Central Tennessee College, Nashville, Tenn.
University of California, Dental Department, San Francisco, Cal.
University of Iowa, Dental Department, Iowa City, Ia.
University of Maryland, Dental Department, Baltimore, Md.
University of Michigan, Dental Department, Ann Arbor, Mich.

University of Pennsylvania, Dental Department, Philadelphia, Pa.

Vanderbilt University, Dental Department, Nashville, Tenn.

Western Dental College, Kansas City, Mo.

Minnesota Hospital College, Dental Department, Minneapolis, Minn. (defunct).

St. Paul Medical College, Dental Department, St. Paul, Minn. (defunct).

American College of Dental Surgery, Chicago, Ill.

The report was adopted.

The following officers were elected for the ensuing year: W. E. Magill, Erie, Pa., President; J. Y. Crawford, Nashville, Tenn., Vice-President; Fred. A. Levy, Orange, N.J., Secretary and Treasurer.

Adjourned.

Editorial.

The Joys of Journalism.

A journalist started out to please everybody. At the end of the first volume he committed suicide. Had he taken precautions, he might have lived to die of softening of the brain. He might have asked advice from everybody; sometimes "taken it from nobody," and learned the folly of trying to please anybody. A sailor who never expects ruffled waters ought to stay ashore. An editor who is not as ready for a fight as for friendship, ought to get a berth on the journal of the peace society.

A friend thinks this journal ought not to be "the official organ" of any of the provincial societies. He is alone in his wish. When the societies selected it as such, their members were not so stupid as to ask it to give up its independence, and the pretence that it is not independent because it publishes these society proceedings—for that is the only "official" connection it has—will not hold water. It is quite as independent as any of its critics.

It is said that the JOURNAL ought to be "cosmopolitan." No definition is given of the term. It makes no pretentions to be a

journal of the world, though it goes pretty well over it wherever it is wanted. To make it more cosmopolitan, our friends only need to make it more practical. We get more sermons than we need, though a good sermon now and then is a good thing. We observe that our exchanges never copy the sermons. They, too, have more than they want.

"Bridge Work" Advertisers.

We have repeatedly been asked to draw attention to the fraud and imposition practised upon the public by the noisy advertisers, who pretend to possess superior knowledge in dentistry, and whose chief trick is that referred to in the following resolution passed at the last meeting of the Conn. Valley Dental Society. As a rule these blatant advertisers are obliged to hire itinerant mechanics to do the work they profess to have "invented," and having no higher object than making money at the expense of personal decency and professional honor, they almost invariably find their level in public contempt and professional failure. We urge our readers to secure the publication in full of these resolutions in their local press.

At the annual meeting of the Conn. Valley Dental Society, held at Greenfield, Mass., June 1st, 2nd and 3rd, 1892, the following preamble and resolutions were unanimously adopted :

Whereas, advertisements, cards and notices by dentists referring to "teeth without plates," crown and bridge work, etc., frequently appear in the public prints, and

Whereas, such advertisements, cards and notices are misleading to the public, in that they claim or imply that these devices are new, and that in constructing these appliances they possess a superior skill over other practitioners, and

Whereas, these devices are not new, but have been constructed and applied for many years past by various members of the dental profession, and

Whereas, the code of ethics governing dental societies says : "It is unprofessional to resort to public advertisements, cards, hand-bills, posters, or signs, calling attention to peculiar styles of work, lowness of prices, special modes of operating ; or to claim

superiority over neighboring practitioners," and that "Dentists are frequent witnesses, and, at the same time, the best judges of the impositions perpetrated by quacks; and it is their duty to enlighten and warn the public in regard to them," and

Whereas, the objects of dental societies are to cultivate the science and art of dentistry and all its collateral branches; to elevate and sustain the professional character of dentists, and to promote among them mutual improvement, therefore .

Resolved, for the information and protection of the public, this society condemn such advertisements, cards and notices as not only unprofessional, but usually deceptive either by statement or implication.

GEO. A. MAXFIELD, D.D.S., *Secretary.*

Royal College of Dental Surgeons, School of Dentistry.

The announcement for the academic year 1892-93 has been issued to licentiates. Dr. Hipple has been added to the staff of the School, as Instructor in Bridge and Crown work. The Board of Directors are: Drs. H. T. Wood, President; J. B. Willmott, Secretary; L. Clements, Treasurer; R. M. Fisher, Registrar; and C. A. Martin, Geo. C. Davis, C. H. Bosanko. The Board of Examiners for 1893 are: Dr. Thos. Rowe, Presiding Examiner and Examiner on Physiology and Histology; Dr. W. A. Legge, Prosthetic Dentistry; R. M. Fisher, Medicine and Surgery; J. G. Roberts, Operative Dentistry and Pathology; A. H. Hipple, Chemistry; H. Wood, Materia Medica and Therapeutics; G. C. Davis, Anatomy; N. Pearson, Practical Dentistry and Metal work. The School consists of Drs. J. B. Willmott, Operative Dentistry and Dental Pathology; L. Teskey, Principle and Practice of Medicine and Surgery applied in Dentistry; W. W. Stuart, Regional Anatomy; J. B. Willmott, Prosthetic Dentistry; L. Teskey, Visceral Anatomy, Physiology and Histology; W. W. Stuart, Chemistry; W. E. Willmott, Materia Medica and Therapeutics; A. H. Hipple, Bridge and Crown work; W. E. Willmott, Demonstrator and Teacher of Practical Dentistry.

The announcement gives the Act in full with the amendments of 1891 and 1892, and the consolidated by-laws of the R.C.D.S.,

Ont. The students in attendance, session 1891-92, were as follows : Junior Class 42, Senior Class 24. In the department of dentistry, University of Toronto, eleven gentlemen graduated as Doctors of Dental Surgery.

The Dental College of the Province of Quebec.

We are sure our friends in Ontario and the other provinces will pardon us for giving so much space to the new movement in the old Province of Quebec. Ontario, as the first parent of dental legislation and education in Canada, welcomes every addition to its family.

The profession in Quebec Province followed the lead of Ontario, and secured incorporation in 1869. Quebec as a province, however, could not expect to initiate the push and progress of dental association in Ontario, and it is only now that it has succeeded in getting a dental school, and even in this respect, in justice to the two legal languages, it may pay Ontario the sincerest flattery, that of imitation in some things, but it cannot follow any lead in everything. The Dental College of the Province of Quebec is negotiating to be affiliated with McGill University (English) and Laval University (French), and lectures are to be given in both languages. The English students will take the necessary medical lectures at McGill, and the French at Laval, while the two dental faculties will use the one building, and continue to exhibit that fraternity and good feeling which has never had an interruption. The degree of Doctor of Dental Surgery will be given by McGill and Laval. and the course of study will be three years, and embrace all the requirements of the National Association of Dental Faculties. Candidates for the license to practise in the Province must be indentured for four years, and also take the College course. The standard of matriculation has been raised to that required for the entrance upon the study of medicine, and must be passed before indentureship.

Dr. A. H. Hipple.

Our readers will regret to learn that our co-editor, Dr. Hipple, has decided to locate in Omaha, Nebraska. He was appointed Examiner in Chemistry last winter, and at the midsummer meeting of the Board was elected one of the lecturers of the school, and was to give a series of sixteen lectures on crown and bridge work. In several ways he will be very much missed. His many friends will wish him success, and we shall expect now and then to hear from him in these pages.

Arrogant Critics.

Every thinking man is more or less a critic. But there are critics and critics. When a new idea, or an old one renovated, is presented for discussion, some critics will examine it with but one object—the unselfish desire to get at the truth. Others will measure it by their one and only standard of mathematical certainty—its exact correspondence with their own preconceptions. Dentistry, like other occupations, is not exempt from the professional Thersites, who love to bring the modest efforts of their fellow-workers into ridicule; who set themselves up, not only as connoisseurs, but as professional scolds, and who think "when they ope their mouths, no dog should bark."

One cannot be too severe upon the advertising quack and impostor, but it is discouraging to men who mean well, but who do not assume infallibility, to find their humble efforts sneered at by some arrogant critic, who is never happy but when burning the incense of admiration before his own productions.

As a rule, the truly great men in any sphere are not those who find it necessary to depreciate thought and labor they have not themselves performed. The truly great are those who welcome every honest search for the truth, and whose criticism is crowned by their charity. Many a worthy young man is deterred from literary and scientific effort in associations by the stupendous arrogance of some self-elected "Great I am," whose over-bearing

conceit blinds him to the fact that another man may possibly be right, and he altogether wrong. The profession is, however, full of generous critics and noble men, who make no pretence themselves to omniscience, and who do not expect it in others. We have pleasant recollections of the charity such men extend to their confreres, in personal associations with the Odontological Society of New York, and no doubt the success of that illustrious body is due not only to the zeal and ability of its members, but to the fact that in criticism they never forget they are gentlemen.

Reviews.

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567 *Useful Hints for the Busy Dentist.* By Wm. H. Steele, D.D.S. Published by the Wilmington Dental Co., 1413 Filbert St., Philadelphia. $2.50.

This is an age of condensed meat, milk, and knowledge. Many men bolt their knowledge as they bolt their food. They want science in tid-bits; they have no time to read what is not *multum in parvo.* If they are scripturally inclined they read nothing but the Book of Proverbs. Dr. Steele knows this class of humanity, and he has catered to them in a wide range of extracts from most of the journals. It is an *omnium gatherum* of practical use after the manner of Dr. Catching's Compendium.

Materia Medica and Therapeutics. A manual for students and practitioners. By L. F. Warner, M.D. Philadelphia: Lea Brothers & Co. Pocket size. 224 pages. $1.

This is a Number Five of the Students' Quiz Series, and we can say of it, as we said of its predecessors, that it is a most valuable ready reference and memory-refresher to the practitioner as well as the student. It is prepared in the interesting form of questions and answers, and continues the value of didactic instruction, as well as of the regular "grinds." Dental students will find it most useful.

Anæsthetics: Their uses and Administration. By DUDLEY W. BUXTON, M.D., B.S., Member of Royal College of Surgeons, Administrator of Anæsthetics Dental Hospital of London. Second edition. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut Street, 1892. Price, $1.50.

The reputation of Dr. Buxton as a specialist in anæsthesia has long ago crossed the ocean, and Messrs. Blakiston have done a service to all branches of medicine and surgery in the issue of this American edition. It is doubtful if sufficient and scientific attention is paid in dental colleges to the subjects embraced in this valuable little work, such as the preparation of the patient, the choice of the anæsthetic, as well as the best methods of administration. To dentists, especially, a warning may be necessary with regard to the indiscriminate use of certain anæsthetics in pulmonary and renal diseases. The chapter on nitrous oxide gas is very thorough, discussing the physiological action, apparatus, etc. In fact, the work is one which every dentist should possess, because it is one which every dentist needs.

WE are requested to say, "look out for the 1892 edition of Catching's Compendium of Practical Dentistry." Sold only on subscription. B. S. Catching, Atlanta, Ga.

Abstracts From The Journals.

Chicago Dentists.

Dr. W. W. Allport, in the *Dental Review*, says that dentistry is by no means the lucrative calling that many suppose it to be. Out of nearly seven hundred dentists in Chicago he challenges anyone to name five who are doing a business of over $15,000 a year, ten more who are doing over $10,000 a year, and twenty more who are doing more than $5,000 a year, while there are large numbers whose net income does not reach $1,000. The

chief reason for this he finds in the horde of improperly educated graduates annually turned out of the dental colleges. The majority of them are not in reality qualified to practise, and in order to live they resort to methods which lower the standing of the profession and reduce the profits resulting from its practice.

Oral Hygiene.

Dr. J. Taft has an excellent article in the *Dental Register*, in which he impresses upon dentists the necessity of instructing their patients in the care of the mouth and teeth. When a patient places himself in charge of a dentist, everything that will minister to the welfare of that patient should be done, but too frequently the dentist contents himself with an operation upon one or two teeth, and dismisses the patient with the mouth in such a condition that the best work possible in the way of filling is of little permanent value. There is too little taught in dental colleges, and too little written in the journals, upon the subject of oral hygiene. It should be discussed more in dental societies so that practitioners would have a better conception of the relation they should bear to their patients. While this is true, however, he thinks that neglect does not arise so much from ignorance as from a lack of recognition of the importance of the subject.

Clean Instruments.

Dr. George S. Allen, of New York, in the *International Dental Journal*, recommends the use of a one to one thousand solution of bichloride of mercury in rosewater, as an elegant and efficient disinfecting fluid for instruments. Contrary to the common opinion that steel instruments suffer from the use of any solution of the bichloride, he finds that they remain perfectly unaffected after being dipped in it hundreds of times. By the use of rosewater the bug-poison taste of the simple solution is entirely supplanted by an agreeable rose-flavored one. As the plain bichloride decom-

poses, he advises the preparation of a one per cent. solution from the tartaric sublimate tablets, and the addition of nine parts of rosewater to one of the solution when it is wanted for the disinfection of instruments or for use in the mouth.

Valley Tan.

With the single exception of the American Indian, it is said there has never existed any people so low in intelligence that they have not devised some means of obtaining alcohol in sufficient strength to produce intoxication. Probably there is no product that is so universal among mankind. Even the inhabitants of the frozen North get alcohol by distilling the products of the arctic fir-trees. It is a singular fact that the American Indian, who never of himself obtained alcohol by any process of distillation, has the most ungovernable appetite for it. There never was a native Indian who would not get drunk if the opportunity offered.

The Mormons of Utah never allow the sale of alcohol among themselves, when they are masters of the situation. Yet their religion does not conquer their appetites, for they have an illicit form of it called Valley Tan, which is indigenous to Mormondom. It is said to have all the characteristics of a distillation from sage brush. It looks bitter, smells loud, and tastes yellow, but it gets there just the same.

The Rate of Increase.

Linnæus said that three flies would consume a dead horse quicker than a lion, and he was undoubtedly correct. The fly produces 20,000 larvæ daily, and as each of these comes into the world all ready for business, it may readily be seen with what rapidity they can multiply.

It has been estimated that if everything were favorable,—if all the waters on the globe were composed of the proper culture media and none were destroyed—the product of a single bacterium cell might, in three days, fill all the oceans to their nethermost depths, so almost infinite is their rate of proliferation. And yet in size they may compare with man as the latter does with Mont Blanc.

Author .....

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